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A VERY common and anxious inquiry now-a-days, outside the profession, is:—What is the reason of the great mortality in childbed? Death, when then occurring, is regarded with greater horror and alarm than at any other time; and such is only reasonable, for, as a lady not long since remarked to me:—"It is not natural for woman

to die in the performance of the most important function of her sex;" in confirmation of which we are told "she shall be saved in childbearing," to which end her beautiful and perfect conformation, together with other circumstances attendant thereon, tend very much, for truly she is "fearfully and wonderfully made."

For some years, my attention having been drawn to this fact, I have been induced to investigate the cause or causes of such a contingency; and to discover, if possible, how far it is in our power, if not to prevent its occurrence, at least to lessen its frequency and mortality. In this I think I have been successful; at all events, the result of such inquiry has been highly satisfactory to myself, and I trust it shall be viewed in a similar light by my professional brethren.

It is a well-established fact that, comparatively speaking, very few females die when absolutely in labour, but that the fatal issue arrives at a more distant period, and is generally the result of some form of abdominal or pelvic inflammation. Denman says—"Puerperal fever occasions the death of much the greater part of women who die in childbed." Dr. John Clarke has stated:—"That of all women who die in consequence of child-bearing, by far the greater number are cut off by disease after delivery, very few, with good management, dying during the act of labour." Professor Simpson states that:—"Nearly 3,000 mothers die in childbed every year in *England and Wales*, and the great majority of these deaths are produced by puerperal fever." And we have a still further confirmation of these statements, if such was required, in the almost daily published recommendations of ventilation, deodorization, and such like, as preventives of the disease; indeed, very lately, to this end, the most startling proposition, of "washing over the interior of the womb, immediately after delivery, with a solution of nitrate of silver," has been made by some visionary—for surely we cannot otherwise designate him.

Of all the diseases to which the human female is liable, I know of none which is more insidious in its invasion, more rapid in its course, more proclivous to a fatal termination, and, failing in the latter, more prone to lay the foundation of some form of secondary inflammation—as phlegmasia dolens, and such like painful, dangerous, and often fatal complaints—than puerperal fever. Denman describes it as "A disease in which the symptoms come on with violence, proceed with rapidity, and of which the event is very often fatal."

From an experience of many years I can fearlessly assert that, in

by far the greater majority of instances, especially in private practice, *post partum* inflammation is either induced or overlooked—and thereby let run on, in some, to a speedy and fatal termination, and, in others, to the causation of affections above alluded to—by the medical attendant, either from want of practical knowledge, or of common attention, on his part; or from neglect or violation of his directions by the nurse, by the patient, or her friends. In this remark I am more than borne out by the following opinions, which have only come within my knowledge since my judgment had been formed, and they are therefore the more valuable. Denman thus speaks:—"There is but too much reason to lament that, inconsiderate proceeding and the want of common care frequently give rise to puerperal fever." Dr. John Clarke says:—"With respect to improper treatment after delivery, this is partly to be imputed to the accoucheur in some instances, perhaps, but much more frequently to the woman herself, either in using some indulgences of the appetite which are incompatible with her situation, or to the well-meant but ill-judged advice of friends, or the obstinacy of bad nurses." Dr. White states:—"That most, if not all, those disorders which are usually supposed to be peculiarly incident to the puerperal state, are either the effects of mismanagement in the accoucheur or nurses, or else arise from the patient's own imprudence—that they may, in general, be truly said to be fabricated, and may always, except in lying-in hospitals, be avoided."

Upon those grounds I feel it my duty to lay before the profession my views on the subject, for which I only ask that amount of consideration of which they shall be deemed worthy; still I conceive that if they shall be as generally adopted, and as rigorously carried out by others as they have been by me, we shall have less mortality in the parturient state, and less organic disease consequent thereon.

I cannot let this opportunity pass without acknowledging my debt to my friends, Dr. Evory Kennedy and Dr. Charles Johnson, for much of my success in this as in other instances; for, whilst I had the honour and advantage of being their assistant in the Dublin Lying-in Hospital, I received from them very many highly valuable and practical suggestions.

It is not my intention to enter into the *vexata quæstio* of what is the nature of puerperal fever, for I do not think that such a course would be profitable; but as in almost all, if not all, the recorded cases of the disease in which *post mortem* examinations were made, there were evidences of inflammation; and, as I believe, now-a-days,

no practical man will assert that it is not inflammatory, at least in some stage, be that never so short, I shall class it amongst puerperal inflammations; but, *in limine*, I must state that I am not now about to recommend any new specific for those maladies, my object being merely to demonstrate that their occurrence can, and how they can be prevented in many instances, as also their removal effected more frequently than it is.

From what has been already stated, it is obvious that our intention is to prevent the advent of the disease; but, having failed in it, to use our best endeavours to remove it.

Prevention is to be viewed in a two-fold light; in the one our object being to avoid or remove predisposing causes, *obsta principiis*; and in the other, where those causes have obtained, to counteract their baneful influence by adopting that treatment most likely to ward off the anticipated danger; and, as White says:—" 'Tis an axiom in physic, that a remedy which cures a disorder will always prove prophylactic against it." Our wishes shall be best carried out, by adopting, on the "*venienti occurrere morbo*" principle, the most powerful of those means successfully employed for its cure, but less actively; if, notwithstanding, we fail in our purpose, we gain a great advantage in having commenced treatment so early in a disease which runs its course so rapidly; for in very many instances the delay in such, even for six hours, has made the difference between recovery and death.

The causes of *post partum* inflammation are very numerous, their name being "legion;" however, the following may be classed amongst the most frequent and most powerfully predisposing:—

1. Impaired health during pregnancy.
2. Want of cleanliness and of ventilation. Hospital influence.
3. Contagion. Epidemics.
4. Distress of mind from seduction, and such like; anxiety, and excitement caused by visitors.
5. Errors in diet, and use of stimulants.
6. Hemorrhage; introduction of the hand for version, or retained placenta; portion of secundines retained, or clots putrefied in the uterus.
7. Drawing the breasts by artificial means too soon after delivery, or repelling the milk too suddenly by cold applications of vinegar, &c
8. Exposure to cold, too early rising, or going out too soon after delivery.
9. Puerperal convulsions, actual or threatened.

10. Uterine disease.

11. Inhalation of chloroform during labour.

There are others which do not exercise so powerful an influence; nevertheless, when they obtain it is well to watch narrowly the case, and to be prepared for any contingency, such as the coëxistence of some form of dropsy, varicose state of the lower extremities and genitals, false pains terminating in tedious labour, neglected after-pains, and inflammation having followed upon former labours. If, however, many are present, the case then becomes more serious.

1. It is of the last importance that, when a female falls in labour, she should be in good health; for experience tells us that the opposite condition strongly predisposes to puerperal inflammation. Dr. Samuel Cusack, in a monograph on this affection, states:—"That by far the most powerfully predisposing causes are derangement of the general health, and impaired and broken down states of the constitution previous to delivery." Dr. John Clarke thus writes:—"We ought always to remember that the progress of the future labour and its consequences will depend very much upon the previous state of the patient's health. Another cause of the disease is, most probably, too great indulgence in improper kinds of food, and too little attention to regularity in the mode of living towards the conclusion of pregnancy; in everything, therefore, which we recommend to pregnant women, we should consider the effects which may be thereby produced upon the labour, and upon the health of the woman afterwards. By paying constant attention to these points we shall so conduct a woman through the state of pregnancy, that she will fall into labour in perfect health, and with the constitution prepared to sustain the violence of the exertions employed during the progress of it—and this without the most remote danger of disease being produced afterwards." Mackintosh and White mention constipation and accumulation of feces in the intestines as causes; indeed, I have met with cases so produced; and others are given in the different hospital reports. I have heard Dr. Charles Johnson say, that he never had a bad recovery where he had the management of the case during pregnancy; and so firmly convinced was he of the necessity of good health being associated with labour, that, during his mastership of the Lying-in Hospital, he made it a rule that, whenever practicable, the females seeking admission should be induced to attend at the institution, from time to time, before their labour set in, in order that they might be kept in good health up to that period.

2. Cusack states:—"That a large proportion of persons labouring under this affection were known to inhabit badly-ventilated rooms." Hamilton affirms:—"That it occurs chiefly among those who inhabit confined apartments, in narrow, dirty, and ill-ventilated lanes." White states:—"That keeping the patient continually cool, and the air free from putrid effluvia, are matters of the utmost consequence. The neglect of these cautions often lays the foundation of puerperal and miliary fevers." Dr. John Clarke says:—"Breathing a pure air is very necessary; therefore the chamber in which the patient is confined should, if possible, be spacious and airy; a free ventilation should be allowed, the extremes of heat and cold should be equally avoided, and all impurities be constantly removed which might contaminate the air of the room." And we have the truth of all this strongly exemplified in hospitals, where the disease is always more rife and more fatal; nor ought such to be an object of wonder, when we take into account that a number of females are delivered and habited in the same ward, the atmosphere of which must necessarily be tainted by the different secretions and excretions, which, in an unhealthy season of the year, no amount of ventilation can purify. White thus speaks on this subject:—"I am afraid no methods will be effectual where several lying-in women are in one ward; it will be very difficult to keep the air pure, dry, and sweet, and at the same time to accommodate the heat of the ward to their different constitutions and symptoms." The only means, I believe, of arresting the progress of this terrible disease, under such circumstances, is the shutting up, cleansing, painting, and thoroughly ventilating of the institution, as has been done successfully, on many occasions, in the Britain-street Lying-in Hospital.

I think it is a subject for special inquiry, whether or not it be an advantage to dispense with hospital relief, if not altogether, at least in a great degree; for confessedly the mortality is much less in dispensary practice; and, according to Dr. Collins, the disease is less frequently met with outside those institutions. The doctor thus speaks:—"Puerperal fever occasionally occurs of the same character as in hospitals, amongst the lower classes; never, however, to any extent." And Jussieu thus confirms his assertion:—"Cette maladie n'a pas été aussi violente, ni aussi commune parmi les pauvres femmes qui ont accouchées chez elles, que parmi celles qui ont été accouchées à l'Hotel Dieu."

In the Statistical Report of the Royal Maternity Charity of

London for 1861, I find the following:—"In this year 4,110 women were delivered, and 11 died, not one of whom had puerperal fever. It is a gratifying feature, one bearing remarkable testimony to the value of home succour to lying-in women, that no death occurred from puerperal fever. As a contrast to this, during the same period, the charity of the London lying-in hospitals was largely embittered by the baneful alloy of puerperal fever. Lest more victims should fall at the shrine of this questionable charity, two of these hospitals have been closed for a while. In the meantime, no similar calamity can arrest the active and successful benevolence of the Royal Maternity Charity; this institution does not generate the elements of destruction for its clients, and consequently does not create the conditions which have so often led to the interruption of the operations of lying-in hospitals. Such a lesson as this challenges earnest attention. If lying-in hospitals be a necessity, then let them be constructed on the principle of cottage hospitals, and raze the hospitals—whose wards have been the scene of such dire, because artificially produced, calamities—to the ground." Nevertheless, although we did get rid of, or even lessen hospital relief, still other causes, to be dealt with by-and-by, would be much increased in Ireland, where revelry is the order of the day in the houses of the poor on such occasions, and where cleanliness and ventilation are equally despised and neglected. Dr. Cusack has recommended the employment of tents.

3. I believe that now-a-days no one will be so hardy as to deny those influences which have been recognised since the time of Hippocrates. But each acts in a different way, by the direct agency of the disease itself, and by that of others similar, perhaps, in their nature; as thus the malady may be induced by contagion, from the affected party to another, or by infection through the medium of the physician or the nurse-tender, as also by the fomites of such diseases as typhus fever, erysipelas, and scarlatina, or by the exhalation from dead bodies conveyed by those engaged either in anatomical pursuits, or *post mortem* examinations; of the indirect communication instances are not wanting, for they have been many; and in fact on several occasions the medical man has retired from practice for a period, so much was he convinced that he conveyed disease and death in his wake.

Typhus fever has been mentioned by many as a cause. Cusack has remarked:—"That persons labouring under typhus fever at the time of their accouchement were the subjects of puerperal fever."

Collins states:—"That in two or more instances puerperal fever originated in the Dublin Lying-in Hospital, from a case of typhus fever, in patients admitted into the institution in labour." It is well known that the converse of this sometimes obtains, for, on more than one occasion, nurses in attendance upon puerperal fever patients have been affected with a very bad form of typhus fever.

The intimate connexion between this disease and erysipelas is almost universally admitted. Dr. Collins has stated:—"That puerperal fever has been epidemic in the hospital on several occasions when typhus fever prevailed in the city, and at other periods when erysipelas was frequently met with." A medical friend of mine had some time since under his care a female suffering from puerperal inflammation, evidently induced by her having cared a relative affected with a bad form of erysipelas, for some days, up to the period of her labour setting in; the malady appeared on the third day, but she eventually recovered. It is not unusual, in the course of this disease, for erysipelas to appear, as it were critically, on some part of the body. Hey speaks of it as a common occurrence. Gordon and Armstrong relate two similar cases, each. I, also, have seen such cases, in two of which abscesses formed, and were opened, one at the side of the anus, and the other in the sole of the left foot. Some time since I was made cognizant of the fact that one gentleman had just then three cases of puerperal inflammation under his care, each and all being traceable to the fomites of gangrenous erysipelas in a patient's leg, which he daily dressed. As in the case of typhus fever, so in this—we can prove our theory conversely. In the year 1840 I visited Strasbourg, which had been shortly before the scene of a terrific epidemic of puerperal fever; and in conversation with Professor Stoltz, the principal physician to the lying-in hospital of that city, he informed me that in almost all the children of the females so attacked a bad form of gangrenous erysipelas appeared, and proved very fatal. About five years ago I had two cases of erysipelas in the infants of females who had puerperal inflammation, but both they, as well as their mothers, recovered. Trousseau has remarked:—"That the erysipelas of newly-born children is observed principally when an ill wind of puerperal fever blows over the hospitals of Paris." I am credibly informed that, about ten years since, in this city, a lady died of puerperal fever, produced in her through the agency of her nurse-tender, who had left a house much infected with scarlatina to attend upon her. About two years ago another lady

thus lost her life; and in a few days after her interment scarlatina appeared amongst her children, and proved fatal to one. Yet, again, we find a Dr. Blakely Brown narrating, in one of our medical journals, eight cases in which scarlatina occurred in the puerperal state without inducing puerperal fever or fatal consequences. We sometimes meet with a rash not unlike scarlatina complicating puerperal fever, but it is not necessarily fatal.

Some years since, it was the habit at the Vienna Lying-in Hospital to entrust one portion of the patients in the institution to the care of male students, whilst the other was attended by females. Strange to say, after a very short period, it became manifest that the mortality amongst the former class was far greater than in the latter, which, on inquiry, was found to have resulted from the fact of the male students being daily engaged in anatomical pursuits. Consequent upon this *eclaircissement* they were superseded by females, after which the discrepancy completely disappeared, and an order was issued, that, for the future, no student so engaged would be permitted to attend. So much impressed am I with the truth of this observation, that I invariably refuse either to make, or assist at, necroscopic examinations, and am most particular in the ablution and deodorization of my hands after I have examined any female suffering from malignant disease of the genitals, or any other, accompanied with much purulent discharge.

In hospitals, puerperal fever is sometimes propagated apart from contagion. White says:—"It is conveyed from one patient to another by miasmata lodging in the furniture, &c.;" or, as Johnson states:—"As the apartments and furniture will imbibe some of the morbid effluvia arising from patients, the air must always be more or less tainted."

Many have been the theories advanced as to how the disease is brought from one female to another: for instance, by impurities adhering to the hands, clothes, and such like; yet after the most careful cleansing and purifying, together with strict attention in changing every article of dress, the result has been the same. A few years since a new and, to say the least, a very ingenious theory was advanced—that the breath is the medium of conveyance, whose *modus operandi* is as applicable in the case of the intervention of a third party as by direct communication; which, in the latter case, I believe will not be doubted by any one, but in the former it is not quite so evident, and is thus attempted to be explained:—That the doctor, or nurse, as the case may be, although not obnoxious to the

disease, may absorb its fomites, and give them out to the pregnant or parturient female, who is in a condition fitted to receive the malady thereby produced; and that in the case where typhus fever, erysipelas, or scarlatina is the engendering cause, even though she inhale the generating elements of those affections, she, having an immunity from them, may escape, yet in their stead an analogous disease is produced. It is a curious and interesting fact, that the pregnant woman will often resist infection, yet, when delivered, she shall become much predisposed to it; and again, although she be exposed to contagion for some time before delivery, she may not exhibit any sign or symptom of the disease; yet, after that event, the malady may appear in her without any subsequent exposure to its influence. Within the last year scarlatina of the diphtheritic type infected four children of one of my patients, who was carrying her tenth child. Being a very anxious and affectionate mother, she remained in constant attendance upon them, in total disregard of all that was said to her as to the probable danger to herself. She, however, then escaped. Her labour set in with much hemorrhage, which continued after delivery; nevertheless, she had an excellent recovery. But, at the end of a month, her children (all of whom recovered) were admitted to her room, and in a couple of days afterwards a mild form of scarlatina set in, of which she quickly recovered.

Dr. — related to me the following case, which is very apposite here:—"Mrs. —, when *enceinte* of her fourth child, was exposed to the infection of small-pox in her own children, for some weeks previous to her accouchement, without any appearance of the disease in her; however, two days after her delivery—*à terme* of a putrid child, with the skin peeling off—small-pox (evidently the destroyer of the fetus) attacked her, but she eventually recovered." This phenomenon we *occasionally* see further exemplified in the cases of females infected with syphilis, who, although contaminated by it, exhibit no external evidence of its presence in their systems until after the birth of their children.

In many instances it is impossible to pronounce whether puerperal inflammation be induced by contagion or epidemic influence, as they are often very closely associated; but, of the two, I believe the former to be the more fruitful element of propagation. That this disease, even when sporadic, is infectious, I doubt not; as also that it frequently, when so—particularly in hospitals—becomes epidemicized. In the majority of cases this malady, be it sporadic or

epidemic, sets in about the same time during the puerperal state—indeed I have seen it occur equally early in both instances; so that the fact of its having appeared within a few hours after delivery is no proof of the poison having been absorbed by the system before admission to hospital, which is still further confirmed by the fact that cholera and other diseases have suddenly seized upon persons in perfect health, who could not possibly have previously imbibed the poison. No doubt, puerperal fever attacks its victim sometimes before the birth of her child, without having been noticed; but the cases illustrating the immunity from disease generally enjoyed by the pregnant woman, now adduced by me, argue strongly against such as a rule.

I think, from what has already appeared, that I am fully warranted in asserting that the man who is engaged in anatomical pursuits, on the attendance of typhus fever, erysipelas, or puerperal fever in hospitals, or who is resident therein at epidemical periods, is very reprehensible in practising midwifery; and I also much fear that if such practices continue, and that preventive treatment be not more generally adopted, puerperal fever will become still more general.

Even though this disease be epidemic in its origin, we generally have sufficient warnings to enable us to adopt preventive measures, as, for some time previously, be it long or short, we meet with very slow recoveries, without being able satisfactorily to account for such. Dr. Collins, in his valuable work, has made the following remarks:—"Dr. Joseph Clarke states, it was generally observed that previous to puerperal fever becoming epidemic in the hospital, the patients recovered more slowly, or, to use the language of the nurses, it was more difficult to get them out of bed than usual. This, from experience, I have no doubt is the case; and, when observed, should arouse the medical attendant to adopt, without delay, every means he considers in the least degree calculated to prevent its occurrence." Dr. O. van Franke, in his report of the puerperal epidemic which occurred in Scanzoni's Midwifery Institution at Würzburg, in the months of February, March, and April, 1859, states:—"That precursory indications were met with at the end of 1858 and beginning of 1859, such as mild forms of endo-metritis and peritonitis. About February, irregularities in the parturient process were of frequent occurrence—as deficiency of pains, and still oftener irregular spasmodic contractions, spastic contraction and rigidity of os; the last condition, in some of the fatal cases, was the

cause of the excessive prolongation of the labour, which, independently of other complications, is a powerful predisponent to the disease."

4. The intimate connexion between the mind and the body, and the influence that each exercises on the other, are too well known to require any comment from me; but I believe that this fact is nowhere better exemplified than in the puerperal state. It is a trite and indisputable remark, that seduced females are particularly obnoxious to puerperal fever, which is with them very fatal. Drs. John Clarke, Mackintosh, Campbell, Ferguson, Cusack, and many others, have advanced similar opinions. Newspaper and other reports of deaths from this malady have an injurious effect upon the pregnant woman. Dr. John Clarke relates the case of a female who died of the disease, having been constantly prepossessed that she should do so, because her mother had died in childbed. About twelve years ago a lady came up to Dublin from an inland county, for her first confinement, in consequence of a very fatal epidemic of puerperal fever being then raging in her neighbourhood. Still she was much in dread of catching the disease, and dying of it; indeed she was not permitted to forget the subject, for, contrary to the repeated injunctions of her medical attendant, it was well rung in her ears by a fussy old mother, who each day, in her presence, even before labour set in, said to the doctor—"Has she got puerperal fever yet?" Suffice it to say, she did get it, or rather it was, as just stated, thrust upon her, and she succumbed, without any other predisposing cause having existed. A few days before her demise she was seen, in consultation, by a most eminent accoucheur in this city, who, at his first visit, remarked to her attending physician—"Doctor, you are more frightened than hurt."

Armstrong says:—"As anxiety of mind materially contributes to produce this disease, it should always, if possible, be timely allayed; and, where prevalent, if an alarm be abroad, the practitioner must, above all things, aim to inspire the apprehensive patient with a complete confidence in his powers of prevention."

The too soon admission of visitors to our patient's room has also a very deleterious effect, of which I have met many instances. Dr. John Clarke thus speaks on the subject:—"I need not observe how much great quiet and rest after labour must contribute to appease that irritation of the system which must be occasioned by the violent efforts of labour, and, therefore, of what great consequence it must be that all admission of company be carefully

avoided." Armstrong says:—"In the first week of confinements the rooms are crowded with a succession of friends and visitants, who generally converse over a large fire. As improprieties of this nature are often followed by disagreeable, and sometimes by fatal consequences to the sick, they cannot be too publicly and frequently exposed." It was, and, I believe, still is, the rule of the Dublin Lying-in Hospital not to permit visitors to patients until after the third day, experience having shown that violation of such a wholesome regulation was very frequently fraught with danger.

5. There are two periods at which those errors act deleteriously—during labour, and too soon in the subsequent convalescence—many instances of which must be familiar to the practical accoucheur; in confirmation of this, the following authors thus express themselves. White:—"If the woman's pains be not strong enough, her friends are generally pouring into her large quantities of strong liquors, mixed with warm water; and if her pains be very strong, the same kind of remedy is made use of to support her. Broths, or soups made of flesh-meat, especially if given warm, are injurious." Dr. John Clarke, who relates two cases of inflammation from the use of wine and spirits, says:—"Stimulants in labour are bad; if all be going on well there can be no occasion for them; and if ill, they are much more likely to do harm than good—and a fever afterwards may be the consequence. In general, it is better, I believe, to avoid animal food of all kinds till the stimulus arising from the secretion of milk has subsided, and will render them less liable to inflammation." Armstrong says:—"If we would lessen the risk of fever in general, and of puerperal fever in particular, we should enjoin the strictest antiphlogistic regimen, especially during the first four or five days; the use of cordials cannot be too positively and repeatedly prohibited." Campbell objects to the "too early use of cordials, or stimuli of any kind." My own experience would lead me to lay down, as a general rule, that animal food is improper, and ought not to be allowed to our patient till after the secretion of milk has been well established, the fever attendant thereon has subsided, and the pulse has come down to its natural standard. Stimulants, when used during labour, strongly predispose to hemorrhage; and when had recourse to, too soon after its completion, in the majority of instances, induce puerperal inflammation.

6. I am of opinion that hemorrhage is one of the most powerfully predisposing causes of this disease. Ferguson gives it and abortion

as causes. Denman says:—"It seemed also an observation of importance, that those women, who lost much blood at the time of delivery were more liable to this disease, and it was more commonly fatal to them." Burns:—"That hemorrhage seems to predispose to it." Hey and others record several cases so induced. Cusack mentions it as a cause. Armstrong thus speaks:—"It would certainly seem that hemorrhage during delivery does, in certain subjects, predispose them to attacks of the puerperal fever; and it was an observation of the late Dr. Clarke, of Newcastle-on-Tyne, who had seen numerous examples of this disease, that uterine hemorrhage had preceded the majority of the attacks." Many cases, consequent upon hemorrhage, are recorded by Collins and others, in their "*Reports of the Dublin Lying-in Hospitals.*" Introduction of the hand into the uterus, for any cause, but more especially for the removal of an after-birth, morbidly adherent, and retention of the secundines, or portion of them, are justly considered as inducers of puerperal inflammation. Many such cases are mentioned by Cusack, and in the "*Reports of Lying-in Hospitals.*" Armstrong says:—"That a part of the placenta left attached to the interior of the uterus is a cause." White:—"That putrid fevers have been occasioned from the retention of the secundines." Ferguson also states:—"That retained placenta is a cause." Collins thus writes:—"Abdominal inflammation is a serious consequence upon retained placenta from morbid adhesion." Campbell says:—"The disease is sometimes produced by retained portions of the placenta."

7. I have met with cases of *post partum* inflammation caused by drawing the breasts by artificial means, and by the adult mouth, too soon after delivery; as also from the sudden repulsion of the milk by vinegar, and such like applications, when cold, to the breast. Dr. Charles Johnson, many years since, mentioned to me the case of a lady in whom hysteritis was induced by the drawing of her breasts by the nurse.

8. I have seen and heard of many cases of inflammation caused by getting out of bed too soon; in the first week, and at a still later period, it is by no means infrequent to meet this disease, either in a primary or secondary form, from exposure to cold by the too abrupt removal of the binder, too light clothing, or by going out to walk or drive before the expiration of one month from the time of delivery; which, from experience, I believe to be the just limit, if all has gone on well, except under very peculiar circumstances; and the truth of this must be apparent, even to the most superficial

observer, when he bears in mind that the womb, which before impregnation measured two and a-half inches, and weighed about an ounce and a-half, and which had at the termination of uterogestation increased to about 12 inches, and attained to the weight of several pounds, could not possibly return to its pristine condition in a shorter period of time; indeed a gentleman some time since, writing upon subinvolution of this organ, states:—"That even at the end of three months from delivery it has not gone back to its normal state." I think, however, I may fearlessly assert it to be of paramount importance to keep our patient in the recumbent posture so long as we can feel the uterus enlarged above the pubis, apart from all other reasons; neglect in this direction, if it does not cause inflammation at the time, will most assuredly lay the foundation of future mischief; and we have this strongly exemplified by the frequency of uterine disease consequent thereon, as well as upon abortions; it being no easy matter to induce ladies to remain quiet sufficiently long after the latter occurrence. Indeed in many instances they are not to be blamed, as their medical adviser makes little of the accident, never remembering that it is an unnatural process, and, therefore, more likely to engender disease. Professor Simpson, in speaking of "Sub-involution of the Uterus after Delivery," says, what is familiar to every man who has much experience in gynecology—"That rising too soon after confinement is one of its causes, and that we know that both in the healthy and in the morbid state, the uterus is apt to become more congested when the patient assumes the erect position, and that a morbid degree of congestion interferes with various physiological functions; and we can easily imagine that if a delicate woman gets up too soon after her delivery, and remains for a lengthened period erect, while the womb is still more than usually large, the circulation in its walls might get so impeded, and such an amount of congestion be produced as would prevent the normal changes in its walls, and impede the free absorption of its disintegrated particles." Dr. John Clarke recommends "the horizontal posture for some days," and says he has known "death to supervene on sitting up too soon after delivery." White says:—"One gentleman, deservedly of high character in the profession, in a late publication, has declared, that, in his own practice, he has seen more frequent instances of the puerperal fever from early sitting up than from all the accidental causes united." Campbell mentions "exposure to cold as a cause of the disease."

9. In the Twenty-fourth Volume of the *Dublin Journal of Medical Science* a paper may be found, by me, on Puerperal Convulsions, in which I have stated, as my conviction, that there is a manifest tendency of puerperal inflammation, which runs a rapid and often fatal course, to follow not only upon the disease, but also to complicate cases in which premonitory symptoms were present, and the affection prevented shortly prior to the advent of labour; which assertion subsequent experience has proved to me to be correct. Dr. Collins has alluded to this fact; and Denman thus speaks on the subject:—"In almost every case of convulsions that I saw in the early part of my practice there was evidently, after delivery, a greater or less degree of abdominal inflammation; but by the present practice of liberal bleeding, this has probably been prevented." My cases, now alluded to, as well as many others recorded in the several "Lying-in Hospital Reports," attest that "*free bleeding*" has not prevented the occurrence of this complication.

10. I have known many instances in which *post partum* inflammation had been caused evidently by the presence of uterine or other pelvic disease; and others, where pregnancy or labour had followed too soon upon its removal; besides it is not an infrequent incident to see labour rendered tedious, or complicated by hemorrhage from such a cause.

Dr. Henry Bennett thus writes:—"The presence of inflammatory ulceration of the cervix during the first stage of the puerperal period has appeared to me powerfully to predispose the patient to puerperal fever, and to abscess of the lateral ligaments. The uterus seems to retain a predisposition to inflammation in the puerperal state, even in the cases in which ulceration having existed during pregnancy, has been cured before parturition occurred. I have met with repeated instances of puerperal fever under these circumstances."

11. Not the shadow of a doubt exists in my mind that chloroform inhalation during labour strongly predisposes to puerperal inflammation, and that it produces the disease, either directly by poisoning the blood or otherwise, or indirectly by inducing hemorrhage, or chest affections, already stated to be promoters of the malady. I have known puerperal fever in many cases to have followed upon its administration. For further remarks upon this, as also for other objections to the employment of this "*pernicious drug*" at such a time, I must refer to the last Number of the *Dublin Journal of Medical Science*, in which may be found a paper by me, entitled

"Practical Observations on the Injurious Effects of Chloroform Inhalation during Labour."

If we are successful in avoiding or removing those causes which predispose to puerperal inflammation, our end is gained; but if such an issue be not arrived at, we must employ, as prophylactic, whatever remedy has been most successful in treating the disease; its dose, mode of administration, and such like, to be regulated by the number and force of the existing influences. As I believe that mercury fulfils this indication, I would recommend its employment in a mild way, commencing immediately after, and in some instances before delivery, and continuing its use until the milk has been secreted; or, failing it, no unfavourable symptom having arisen up to the time it ought to have appeared; for rarely, unless from neglect or malpractice, does this malady occur at a later period. Dr. Collins, in writing of morbidly adherent placenta, says:—"Much attention should be paid to the abdomen after delivery; and on the occurrence of the least tenderness, an antiphlogistic treatment should be adopted. Where the patient suffers much in the removal of the after-birth, I would recommend the use of calomel and ipecacuanha to be commenced immediately after delivery, so as to be beforehand with any inflammatory attack; a grain and a half of each every fourth hour will be sufficient, watching its effects on the system."

Dr. Armstrong says:—"It ought never to be forgotten that it is in the provident anticipation of disease the medical man most strikingly shows the force of his understanding and the efficacy of his art. If, notwithstanding every possible precaution, there should be the slightest accession of fever after parturition, and especially if the puerperal fever be prevalent at the time, or there be any circumstances in the patient which predispose to its attack, we ought to be extremely attentive; as any fever may pass into the puerperal, particularly where great anxiety and irritability exist, because the main force of the general excitement will be liable to fall upon the abdominal viscera, from the peculiar state of the vessels at that period."

In the still further carrying out of these views it is the duty of every accoucheur, from day to day, to give special directions as to what ought to be done, and what avoided; to look narrowly into the state of the pulse, of the different organs, and secretions, as any deviation from the normal condition should lead him at once to investigate more closely into the case, and thereby enable him to grapple more successfully with the disease in its infancy—a matter of great importance when we bear in mind the necessity of early

and active treatment for the removal of a disease, so fatal at all times, but more especially the nearer its occurrence is to delivery; as also for the prevention of secondary affections, as phlegmasia dolens, pelvic abscess or inflammations, diseases of the uterus, ovaries, &c., so often consequent upon imperfect cures. So thoroughly convinced am I of the advantage, nay, of the indispensableness of catching the malady *in limine*, that I make it a point with the nurse and friends of my patient to send *at once* for me on the slightest appearance of any unusual symptom; for I should prefer being called twenty times uselessly, to being left behind *once* when required. I wish most sincerely I could impress upon all the necessity for such a course, instead of merely writing a prescription, or giving some trivial directions to the messenger, the consequence of which not unfrequently is that the disease is beyond the reach of remedies before efficient means have been adopted.

Dr. Collins says:—"I cannot here omit urging the great importance of the medical attendant seeing his patient instantly on her being attacked; whenever this is practicable, it is of the utmost importance."

Gordon says:—"When the patient had been ill for a longer period of time than twenty-four hours before I was sent for, I generally found that the disease was no longer in the power of art."

Denman writes:—"When the fever has remained for a very few days, the putrid symptoms, which are usually according to the degree of the preceding inflammation, advance very rapidly. If the first stage be suffered to pass unheeded, the physician afterwards called in, however great his talents may be, will too often have the mortification of being a spectator of mischief which he cannot then remedy, and of an event which he can only deplore."

And again:—"It is above all things to be wished, that physicians had the early care of patients in this disease; for the dissections of those who have died have proved that very terrible mischief is produced in various parts with amazing celerity."

Dr. Gooch "has observed the curable stages in many instances to pass over so rapidly that unless the first approaches of the disease be detected, cases will now and then be lost, which might have otherwise been saved."

Armstrong writes:—"I am fully persuaded that it may generally be arrested in the beginning; but that if the first twenty-four hours from its marked appearance be lost, no human efforts, generally speaking, can afterwards atone for the error."

And again:—"Puerperal fever sometimes creeps on in a very insidious manner, the abdominal inflammation being marked by a diminished sensibility of the nervous system."

We have this remark frequently illustrated in cases of mania and convulsions, these affections, as it were, masking the rapidly progressing puerperal inflammation—another objection, in my opinion, to the use of chloroform.

As I believe there is not any malady which more strenuously calls for the *cito, tuto, et bene curare* treatment than the one now under consideration, in which opinion I am borne out by the foregoing quotations, we must be in possession of what are the best means of cure, and the obstacles to their successful adoption. The abstraction of blood is generally requisite, either locally or constitutionally; rarely now-a-days is the latter admissible; but mercury is our sheet-anchor, given so as to affect the system—in very bad cases nothing short of salivation being sufficient either for its removal or for the prevention of those secondary affections already alluded to; for I hold it as an axiom that where active treatment has been adopted in the beginning the recoveries are better and quicker, and no unpleasant sequelæ result.

Armstrong has remarked:—"That where half measures have been employed, and when the patients have had lingering recoveries from this fever, other diseases are very apt to supervene.

Hall mentions—"Phlegmasia dolens as succeeding to many cases of puerperal fever."

The objection to venesection is, that of late years the type of the disease, although inflammatory, has been of an asthenic nature; the same holds good against the too great abstraction of blood locally; and, besides, the repeated application of relays of leeches answers, by far, better, is more manageable, and does not weaken. The advantages derivable from this mode of leeching were frequently pointed out by the late Professor Graves in his valuable Clinical Lectures. With respect to the use of mercury, I think I may with safety assert, that in no case has there been a fatal issue where there were distinct evidences of the system having been affected by it; at least, I do not know of a single well authenticated one. I have seen some in which the mouth was said to be sore; but such state was not caused by systemic mercurialism; the characteristic fetor was absent, and aphthæ were visible in the mouth, on the throat, and fauces—either the result of mechanical irritation, or being associated with dysentery or bad diarrhea, which affections are very

common in *post partum* inflammations, often very difficult to remove, and frequently a barrier to the use of this valuable remedy.

Denman thus speaks:—"The bowels are, in general, very much disturbed; and in some cases a looseness takes place immediately upon the accession; in others, in three or four days after, or not until the last stage of the disease; but it very seldom fails to attend; nor can it be removed without the greatest difficulty as well as danger, before the disease is terminated."

Hey and Hulme also mention such an occurrence. Twenty-six of fifty-nine cases recorded by Collins were so complicated, as were also forty-four of fifty-four given by Hardy and M'Clintock.

Beatty, in writing on phlebitis, says:—"It is almost impossible to produce salivation, no matter in what way the mineral is employed; and if given by the mouth, it is very frequently productive of distressing diarrhea."

Thus it is evident, that we frequently have to deal with a very serious impediment to our successful treatment of puerperal inflammation, which arises in one or both of two ways, either from its connexion with the disease, or from the use of medicine for the cure of the malady. Our object, therefore, must be to adopt such a line of practice, and such a combination of remedies as shall be most likely to prevent the occurrence of so obstructive an influence. In this I think we can succeed, as I constantly do, by an early administration of the mineral, and by giving it in moderate doses in conjunction with opium and bismuth. Opium here has a twofold beneficial effect, by its curative action on the inflammation, and by its astringent property preventing the mercury passing off by the bowels; but if we see our patient for the first time, when diarrhea has set in, we cannot be certain that mercury, be it never so well guarded by opium, will not aggravate this complication, especially as opium, in some exceptional cases, has been known to purge; but such is not the case with bismuth, which I have been, for some years, in the habit of combining with mercury and opium in abdominal inflammation, and I have never yet seen any unhealthy action of the bowels after its employment. I have also constantly given such a combination even where diarrhea was present, giving the mercury in very small doses by the mouth, together with its endermic use, and in not one instance have I seen the bowel complaint increased, but, on the contrary, it has been arrested. For the knowledge of this action of bismuth I am indebted to my friend, Dr. Alfred Hudson; as also for the magic curative effect of enemata of nitrate

of silver in this troublesome form of diarrhea. On some of the uses of this latter remedy a very valuable paper, by him, is to be found in the Seventeenth Volume of the first series of the *Dublin Journal of Medical Science*. As adjuncts to treatment we employ stupes, turpentine epithems, turpentine internally if much flatulency exists, linseed-meal poultices, hot dry bran (commonly known as the bran poultice, which has all the advantages of a perpetual fomentation, besides those of being easily borne from its lightness, and of retaining the heat for hours), and blisters, in some instances dressed with mercurial ointment.

D. O. van Franke's treatment of the epidemic at Würzburg was very similar. It consisted of local bleeding, cataplasms, mercurial inunction, with calomel and opium. But we occasionally meet with cases in which, for some reason, mercury is not admissible; with others, where it has been pushed to a certain extent without much benefit, yet it is not advisable to continue its use; and with others still, in which the mineral has been stopped too soon, and, nevertheless, too late to resume it. In each and all of such cases secondary affections are likely to supervene; and in which I have found success to follow upon the employment of quinine with opium, bark with ammonia, chlorate of potash, sesqui-chloride of iron, and such like; together with broths and stimulants, as brandy, &c. When the pulse keeps up for a lengthened period without our being able to lay our finger upon any mischief, the administration of hydrocyanic acid with digitalis and morphia, has been most beneficial. I am firmly convinced that in many instances a fatal issue has occurred, either from the disease having been overlooked or its symptoms disregarded until too late; the physician having taken the report from the nurse or friends of the patient, instead of examining for himself; of which the following anecdote is illustrative. Some years since, on the occasion of my first visit to a lady after her confinement, she appeared much surprised at my inquiries and examinations, and then said—"Doctor —, my former attendant was never so particular. His habit was merely to come up to, and lean over the foot of my bed, and say, 'How are you to-day, Mrs. G.? Any news? Good day.'" Yet even with the more careful physician—but who does not attach that well-merited importance to each or any of the following symptoms; Quick pulse, slight but obscure uterine or iliac tenderness, and pain, rigors, sleeplessness, prolonged after-pains, faulty secretions, &c.—mischief may accrue; for, surely, puerperal inflammation is an insidious malady.

Of all the symptoms of impending inflammation, taken individually, I believe the condition of the pulse to be the most important; for I never yet saw inflammation arise when the pulse had remained steadily at or under 76, during the first week, unless manufactured; however, I have, on more than one occasion, met with it—the pulse being only 84. But if it does not come down immediately on delivery; or, if it keeps up to 100 for seven or eight days—unless from loss of blood, debility, or nervousness—I should be very solicitous for the result. Of course I do not mind its temporary elevation at the coming of the milk. With some females change of posture—as sitting up to nurse, and such like, the mere entrance of the physician, or some other temporary excitement—is sufficient to disturb the circulation; but by calming our patient, in drawing her attention to something beyond herself, and by causing her to lie *flat* on the bed, we shall find, by counting the pulse two or three times for not a shorter period, on each occasion, than one minute, that it will come down gradually to the normal standard. If, however, we let our patients know that we attach any importance to the circumstance, the chances are that quite the opposite shall result, which then may be regarded as a negative proof. The use of wine or other stimulants may cause a similar state; but as we cannot in all cases be aware of such—it being the object of both patient and nurse to conceal it from us—it behoves us to look sharply for other symptoms, and if they be present, matters then become more serious. I have had patients to whom a quick pulse was natural. I was lately attending two ladies, in one of whom the pulse is always intermittent when she is well, but becomes regular when she is ill; and, in the other, the pulse was natural up to the ninth day, when, on visiting her, I found it intermitting and irregular, consisting of a single and double beat with a sort of bruit in the right side of the heart. On the following day it was perfectly natural again, and has remained so ever since. As I looked upon it as a nervous condition—having heard that she had heard some disagreeable news—I ordered her an antispasmodic and sedative draught. Some years since, a lady in this city, caused great anxiety to her physician and his consultants, as after her first confinement her pulse was very quick, and remained so, without any other symptoms of disease, for a lengthened period, no remedy having had any effect upon it; when at last it was discovered that such a condition was natural to her. As she is now remarkable for changing her medical attendant, she takes much

pleasure in watching the anxiety of each new comer as he counts the pulsations, and then laughing at him. During puerperal inflammation, the coming down of the pulse is one of the best signs; still we must not let ourselves be thus led into error, and give, from its occurrence, a favourable prognosis; for it was an axiom when I was a student—and is so at the present day with the practical accoucheur—that not any amendment in this disease is reliable which does not continue for at least twenty-four hours; the pulse is often brought down temporarily by medicine, such as opium, &c., administered for the amotion of the malady, or by the advent of a rigor; and again, I have found it regular and slow at one time of the day, and the opposite at another—and even alternately slow and quick for days, without any assignable cause.

In estimating the value of abdominal tenderness, we must bear in mind that we sometimes have it in a slight degree, with a rigor and pale lochia at the coming of the milk, when generally it is of no moment; nevertheless we must be careful, as it sometimes passes into inflammation; but tenderness, never so slight, under other circumstances, is a more serious affair, and is often—if not arrested at once—the harbinger of a fatal result. With respect to the state of the lochia, in puerperal fever, there is a diversity of opinion—some holding that it is changed or arrested, and others, that it remains natural. Hamilton says:—"That the unchanged and natural flow of the lochia is a peculiar pathognomonic symptom of puerperal fever." My experience would lead me to say that it is not always affected; but more generally is in the hysteritic form. I have never seen a female die of this disease with her breasts fully distended with milk; nor one who had retention of urine, requiring catheterism for days—indeed I have hailed this last symptom as most favourable in peritonitis, apart from the puerperal state. Denman has remarked—"It is remarkable that not one instance has been observed of any woman who had an abscess in the breast being attacked with this fever; nor of any one who, in consequence of her labour, had such an affection of the bladder as to occasion a suppression (query retention) of the urine."

I am of opinion that mischief often arises from the medical man not visiting his patient regularly for the first nine days, and from not continuing his attendance for a much longer period, for I am convinced that in the second week disease not unfrequently arises; perhaps often from the patient making too free, in some way or other, she believing herself free from all bad consequences, as the

doctor has ceased his attendance, of which the following is illustrative:—A lady went on well for nine days, when her physician left her. She, considering herself safe, and not having been cautioned, went out to drive about the 18th day after her confinement; but the result was lamentable, as she was in her grave within six weeks from the birth of her child—the result of phlebitis. There are two very unpromising symptoms which occasionally occur in puerperal fever, and to which I have not seen any allusion made—the one is an abominably, fetid, dark, and pitchy alvine discharge, of so strong and persistent an odour, that it is perceivable for a lengthened period after its removal from the bed-room, and is observed at a great distance before entering it—once experienced it never can be forgotten; the other is a species of delirium, characterized by the abuse of, and bringing false charges against, her nearest and dearest friends—generally accusing her husband of harsh and unkind treatment. Yet such is not to be wondered at when we remember the words of Drs. John Clarke and Armstrong—the one says:—“The indifference of the mother towards her child is a common symptom;” and the latter remarks, “that the mother, so lately all solicitude for her child, now seldom inquired after it; whatever may be the cause of this curious phenomenon, it indicates an extraordinary power of disease, which even in a few hours paralyzes the maternal affections.” About 18 years ago, from my knowledge of this latter symptom, I was enabled to give great consolation and comfort to a family, a member of which had died of puerperal inflammation; but who during the last twelve hours of her life made most extraordinary charges of cruelty against her husband, which astonished every one; and, although all professed not to believe in the assertions, still an estrangement took place between them, and was lasting for about a year, when I was called to see her sister, with puerperal hysteritis; and during one of my visits, after her recovery, she spoke of her sister, and of her delirium. On my inquiring if such was the nature of it, she burst out crying, and expressed herself as grateful for my having thus accidentally described it; it is needless to say, that almost from that hour, a more lasting friendship has existed between the widower and his wife’s relations and friends.

The following cases are a few of the many illustrative of the evils now drawn attention to, which, from time to time, have come within my knowledge:—

1. Mrs. D.’s seventh labour was complicated with retained placenta

and such alarming hemorrhage (requiring the introduction of the hand) that it was not considered safe to leave her bedside for several hours. Her medical attendant, who resided about two miles from her, did not revisit her for 36 hours; and even then, as well as on the two following days, his visit was merely formal. On the fifth day she complained of some abdominal uneasiness, with quick pulse and fever, but no milk was secreted, and the breasts were flaccid; ordered to be stuped. On the sixth day symptoms very much aggravated; given mercury with opium, with repetition of stupes. On the seventh day delirious, on which evening she expired.

2. Mrs. G., after her fourth labour, progressed favourably up to the fourth day at evening, when she had a severe rigor, followed by much abdominal pain and tenderness. Her physician, who resided about three miles distant, was immediately sent for; but, instead of at once responding to the call, he sent a recipe, with some trivial directions to the nurse-tender, and did not visit the lady till eighteen hours afterwards, when he found her so very dangerously ill that he called out for further advice, after which two eminent medical men saw her. Appropriate and energetic treatment was then employed, but, alas, too late, for she died on the seventh day, having been comatose for twelve hours previous to her demise. No alleviation in her symptoms took place at any time.

3. Mrs. N., on the morning of the third day after her second labour, was seized with a rigor and severe abdominal pain and tenderness. Her husband went at once to her physician, who, having been out all night at a party, was in bed; he did not visit her, but merely directed that she should be stuped, and to have a warm drink. At the end of twelve hours he was again called, when he sent a less experienced man to visit her; and on the following day a large consultation was held, but all to no avail, for time had done its work, and she died delirious on the succeeding day at noon.

4. Mrs. B., during the first week after the birth of her third child, had some obscure inguinal tenderness, accompanied by uneasiness in the part, which had been overlooked; and even where the more marked symptoms of lurking mischief—such as irregular rigors, quick pulse, scanty and fetid lochia, with sleeplessness—had been continuing for days, the case was lightly treated, having been looked upon as merely ephemeral fever. However, it eventuated in phlebitis and arthritis, and she died in a most pitiable state at the end of five weeks.

5. Mrs. M., on the third day after the birth of her second child, complained of some pain and tenderness in the left inguinal region. The medical attendant, although his attention had been drawn to it by a very experienced nursetender, made little of it, and said it was the coming of the milk, yet the breasts did not point out such to be at all likely. The nurse of herself fomented her well; but on the following day she was so much worse that further advice was had, after which very active and energetic measures were adopted, which saved this lady's life; but her recovery was very tedious, and for days her life was in the balance.

6. Mrs. B., in the first week after the birth of her fifth child, had continuing for days, irregular rigors, perspirations, heats and chills, dark scanty and fetid lochia, and sleeplessness, which her physician treated as ague. However, as matters, instead of improving, were becoming worse, her friends, contrary to his wish, had a pure physician to see her, who immediately placed his finger over the seat of mischief—inflammation in the left ovarian region. Suffice it to say, appropriate and active treatment was then employed, after which this lady, whose life had been so long in jeopardy, slowly but completely recovered.

7. Mrs. S.'s case, after her first confinement, was so very similar to Mrs. B.'s, even to the fact of the disease having been discovered by a pure physician, that I shall not enter into the particulars further than to state that, unfortunately, more time had elapsed before the *eclaircissement* took place, and the issue was fatal.

8. Mrs. W. was delivered naturally of her second child, some thirty miles from Dublin. On the fourth day after its birth she felt some uneasiness in the left inguinal region, to which little or no attention was paid. However, as matters were not improving, and as unequivocal symptoms of phlebitis were appearing, an accoucheur of eminence in Dublin was brought down to see her, who at once discovered the malady, and by active and appropriate treatment rescued her from the grave; but she had a very anxious and protracted recovery. She has had many children since, followed by good recoveries, and is now married to her second husband.

The following cases have been selected from several others illustrating the facts now laid down by me, as also the advantages derivable from preventive and early treatment:—

ACCIDENTAL HEMORRHAGE—HAND PRESENTATION—VERSION.

1. Having been summoned hurriedly to visit Mrs. O., who was bleeding profusely, when in labour of her fourth child, and having satisfied myself that the hemorrhage was of the accidental species, I at once proceeded to rupture the membranes; but as in so doing I found an arm presenting, I, without any delay, passed on my hand, turned, and brought a living male to the world. As soon as possible after delivery she commenced taking pills, containing small doses of blue pill with opium, every fourth hour; which treatment was continued up to the third day, when it was stopped, as no unfavourable symptoms had appeared, and as the milk was well secreted. She rapidly convalesced, and nursed her baby for the usual period. About three weeks after her confinement she was attacked severely with cholera, which was then prevalent in Dublin, from which she recovered, under the judicious treatment of Mr. George H. Porter.

BRONCHITIS.

2. Mrs. B. was delivered of her thirteenth child (a male) by the lever,

in consequence of ineffective and harassing uterine action in conjunction with a severe attack of bronchitis.

Immediately after delivery she was ordered blue pill, ipecacuanha, and Dover's Powder, in pill, every third hour, together with stimulating liniments to the chest. On the third day, as the milk was well secreted, the chest was freer, and no unfavourable symptom having arrived, the pills were discontinued, and for them an expectorant mixture was substituted. She had an easy convalescence, and nursed her baby for nine months.

UTERINE DISEASE—HEMORRHAGE.

3. Mrs. R. had a very tedious and difficult first labour, requiring the use of ergot of rye, and subsequently the employment of the lever for its completion in the birth of a large male child. Before the expulsion of the placenta, severe hemorrhage set in; which continued for some time after the extrusion of that viscus, but was arrested by cold applications of vinegar and water, cold water enemata, and large doses of tincture of opium. Shortly after labour she commenced taking small and repeated doses of blue pill and opium, which were continued up to the fourth day, when, as the milk was well secreted and no unfavourable symptom having arrived, they were stopped. She nursed her baby.

This lady had been married for many years without ever having been pregnant, in consequence of uterine disease, accompanied by frequent hemorrhages; but she proved *enceinte* before the complaint had been completely removed, having neglected my repeated injunctions to live apart from her husband until after that event.

HEMORRHAGE—UTERINE DISEASE.

4. I was summoned, in consultation, to see Mrs. G., who was bleeding profusely after the birth of her fifth child. The hemorrhage was arrested by means of cold water, cold water enemata, cold vinegar and water applications, cold water vaginal injections, with large and repeated doses of tincture of opium. As this lady was subject to hemorrhage in all her former labours—upon two of which puerperal inflammation followed; and as there was evidence of a diseased condition of the os uteri, she was put on small doses of calomel and opium, which were repeated at intervals up to the third day, when, as the milk was abundantly secreted, and no bad symptoms having appeared, all treatment was abandoned and she continued to nurse her baby, having had a very good recovery, rather a contrast to her former convalescences which were always slow. In her subsequent labours hemorrhage was prevented by appropriate treatment.

BRONCHITIS.

5. Mrs. L., when in labour of her ninth child was seized with a very severe attack of bronchitis. Immediately on the birth of the baby (a female) she was given small and repeated doses of blue pill, ipecacuanha, and Dover's Powder, and a stimulating liniment was rubbed, twice daily, to the chest. On the third day, as the chest was much freer and the milk was well secreted, the pills were given at longer intervals; and on the following day, as no unpleasant symptom had appeared, an expectorant

mixture was substituted for them. She continued to nurse her baby; and the chest affection was completely removed. She has had another child since, after an easy labour, which she also nursed.

ARM PRESENTATION—VERSION.

6. Mrs. C., when in labour of her sixth child, sent for me in haste, as the waters had escaped in great quantity. Having, on examination, found an arm presenting and the funis prolapsed, I immediately turned and delivered her of a male child, which was very weak; but by means of a warm bath and frictions he was completely resuscitated, and is now a very healthy lad. The prophylactic (mercurial and opium) treatment was employed, as in the former cases, until the evening of the third day, when the milk was well secreted. She had a rapid recovery, never having had an unfavourable symptom.

ARM PRESENTATION—VERSION.

7. In Mrs. M.'s second labour the child (a male) presented with an arm, and was stillborn. Version was performed, but with some difficulty, as the waters had drained off some hours. Immediately after delivery she was given small and repeated doses of blue pill with opium, until the third day, and then stopped, as the milk was well secreted and no unfavourable symptom had appeared.

HEMORRHAGE—UTERINE DISEASE.

8. Mrs. B.'s third labour set in with violent accidental hemorrhage, which was arrested by the usual means; but after delivery the bleeding returned; and finally yielded to cold affusions and large doses of opium. She also had uterine disease. As soon as possible afterwards small and repeated doses of blue pill with opium were administered, and continued to the fourth day; but then stopped, as there was a good supply of milk and not any unfavourable symptom had manifested itself. She recovered quickly, and nursed her child (a boy) for the ordinary period.

BRONCHITIS—HEMORRHAGE.

9. Mrs. C.'s first labour set in with a severe attack of bronchitis, and was followed by hemorrhage, which was controlled by cold applications and cold water and opiate enemata. Within a few hours after delivery she was ordered small doses of blue pill, ipecacuanha, lactucarium, hyoscyamus, and bismuth, every third hour. As, on the third day the chest affection was lessened, there was not any indication of abdominal inflammation—the breasts were well distended with milk; an expectorant mixture, consisting of ipecacuanha, wine, chloric ether, paregoric elixir, and almond emulsion, was substituted for the former treatment, which was then given up. She had an excellent recovery, and nursed the baby for the usual period. This lady was delirious as the head was passing through the os uteri—a symptom well known to the practical man not to be dangerous, but far from uncommon, especially in primiparous cases; nevertheless, not very long since, a medical man being much alarmed at its occurrence in a case, and ignorant of its cause and innocuity,

absolutely perforated the head of a living child. Mrs. C. lost her life in a subsequent confinement from puerperal inflammation, induced by a chest affection, under the care of another medical man who neglected the adoption of prophylactic or any other treatment until too late.

STIMULANTS—HEMORRHAGE—EPIDEMIC.

10. Mrs. D., a lady of highly nervous and excitable temperament, when in her second labour (of a boy) was given much brandy by her nurse-tender. Immediately on the termination of the second stage severe hemorrhage set in, which was arrested by the extrusion of the placenta, and applications of cold water, cold water enemata, and large and repeated doses of tincture of opium. As soon as possible on the completion of labour—in consequence of the above complication, as also *post partum* inflammation being then epidemic in this city—I ordered her small and repeated doses of calomel with opium and bismuth, to be continued up to the secretion of milk, and till all likelihood of inflammation had passed over, which arrived on the evening of the third day. The pulse, however, kept up for a few days; but came down under the use of prussic acid, morphia, and digitalis. She nursed the baby for three months, when it died, in the country, from pneumonia.

TEDIOUS LABOUR—LEVER—HEMORRHAGE.

11. Mrs. H., when thirty-six hours in labour of her second child (a male), was delivered by the lever, in consequence of want of sufficient uterine action, stimulating enemata, three half-drachm doses of ergot of rye, and other means having previously failed to effect the desired object. The membranes had ruptured early in labour, and the pains were not at any period good. Shortly after the expulsion of the placenta pretty smart hemorrhage set in, which yielded to cold applications and a large dose of tincture of opium. Very soon afterwards she was given small and repeated doses of blue pill, with opium and bismuth; which treatment was given up on the third day, as there was a good secretion of milk, and matters in other respects were progressing favourably; she nursed her baby for the ordinary period. This lady was four days in labour with her first child, which was delivered by the crotchet.

HEMORRHAGE.

12. Mrs. T.'s labour was so quick that the child (a male) was born as I entered the house, although there had been no delay in sending for me. Severe hemorrhage set in almost consentaneously with the birth of the baby, which continued after the extrusion of the placenta, but finally yielded to cold affusions, cold enemata, and large and repeated doses of laudanum. As soon as possible afterwards she was ordered small doses of blue pill, with bismuth and opium, every fourth hour, until the milk was fully secreted, and that there was not a likelihood of inflammation, which occurred on the evening of the third day, from which time she nursed the baby for the ordinary period.

HEMORRHAGE.

13. Mrs. C.'s labour was complicated with severe hemorrhage, shortly

after the expulsion of the placenta, but it was arrested by cold applications of water, vinegar and water, cold water enemata, and large and repeated doses of tincture of opium. As, in addition to the hemorrhage, this lady had a severe attack of puerperal inflammation after the birth of her first child, she was at once put on small and repeated doses of blue pill, with bismuth and opium, which were given up on the fourth day, as no unfavourable symptom had arisen, and the milk was secreted. She nursed her child (a girl) for the customary period.

UTERINE DISEASE—TENDENCY TO HEMORRHAGE.

14. Mrs. L., after the birth of her third child, had been ill for some time, under the care of a physician of eminence in this city. She had unmistakable symptoms of uterine disease, even to retroflexion of the organ, yet, strange to say, she was treated for neuralgia. She then became a patient of mine; but, before the disease had been completely removed, she became *enceinte*, and, consequently, all further treatment for the malady was postponed until after her delivery. As she had on former occasions suffered from *post partum* hemorrhage, I gave her ergot of rye as a preventive, just as the head was on the perineum, which had the desired effect. However, as the uterine disease still existed, I ordered her small and repeated doses of blue pill, with bismuth and opium, for a couple of days; but treatment was then abandoned, as the milk was well secreted, and no unfavourable symptom had appeared. She nursed her baby for a few days, until a wet-nurse was procured, as she never intended to continue doing so.

HEMORRHAGE—RETAINED PLACENTA—HAND INTRODUCED.

15. Mrs. G. was unexpectedly seized with labour of her second child (a male) at a distance of seven miles from Dublin, in which condition, late on a Sunday evening, she drove into the city; and, having been cold and fatigued, she was induced to take some hot brandy punch. The labour was very rapid, and followed by very severe hemorrhage and retained placenta, requiring the introduction of the hand for its removal. Almost immediately after delivery she was ordered small and repeated doses of calomel with opium. On the morning of the second day the pulse was quick, the lochia pale and scanty, with some obscure tenderness in the left inguinal region, discoverable only by deep pressure with the points of the fingers; six leeches were at once ordered, and the pills to be taken at shorter intervals. However, her nurse-tender, considering her opinion better than the doctor's, persuaded the lady that she was going on well, and that all treatment ought to be given up; to which she foolishly assented; in consequence of which, towards the end of the day, I was summoned hurriedly to visit her, when, on my arrival, I found the fever far higher, the pulse flying, and the tenderness very much increased. I therefore ordered twelve, instead of six, leeches to be applied, without any delay, to be followed by repeated poultices of linseed meal; and, in addition to giving the pills, assiduously to rub mercurial ointment into the axillæ and inguinal regions night and morning. Under this treatment the inflammation was subdued, pyalism having been previously produced. She had bad diarrheaæ for some days; the pulse kept up for a fortnight

after delivery, when an abscess formed in the sole of the left foot, which was opened, after which she had tonics and nourishing diet. Her milk was secreted, and she nursed the baby for several months. I have no doubt that the abscess was of a phlebotic nature, and was induced by the delay in treatment, aided by her going out too soon, contrary to advice. This lady has since given birth to four more living children, without any untoward circumstance.

TWINS—DROPSY—HEMORRHAGE.

16. Mrs. G., when pregnant for the second time, was prematurely confined, at the eighth month, of twins (males, presenting with the head). Subsequent to the expulsion of the placenta, which was thrown off at the usual period, very severe hemorrhage set in, which was controlled by cold affusions, cold water and vinegar applications, cold water enemata, with large and repeated doses of tincture of opium. In consequence of the bleeding, and the anasarca condition of the legs, genitals, and entire abdomen, from which she had suffered for the last two months of *utero-gestation*, I ordered her to take small and repeated doses of calomel, with opium and James's Powder, commencing immediately after delivery. On the second day the pulse was very quick and wiry, the tongue furred, the lochia suppressed, together with exquisite pain coming on in *paroxysms*, and much tenderness over the uterus. She was at once bled to syncope, which gave her ease for the present; and she was enabled to lie down, which previously was impossible for her to do; the pills were given in larger doses and at shorter intervals, and mercurial ointment was rubbed, night and morning, into the axillæ and inguinal regions. Diarrhea set in in a few days, but not before the mineral had affected the system (the mouth having been made sore), and the inflammation removed. Milk was not at any period secreted.

ARM PRESENTATION—VERSION.

17. Mrs. P., a young and inexperienced lady, being a stranger in Dublin, intrusted herself to the care of a midwife. After several hours of violent but ineffectual labour, having been sent for, I found, on examination, the membranes ruptured, and an arm low down in the vagina. As the pains were violent, and the uterus contracted upon the body of the child, I at once administered to her a full opiate; and, after its action, I proceeded without further delay to turn, which after some difficulty I succeeded in doing, and brought a stillborn male to the world. She was then given small doses of blue pill with opium, every fourth hour. On the second day, as symptoms of hysteritis set in with suppressed lochia; she was given the pills, with the addition of calomel at shorter intervals, 12 leeches were applied over the uterus, and followed by relays of linseed poultices. Under this treatment the disease was removed in a couple of days; but the milk was not secreted. Diarrhea set in after the system had been affected by the mineral, and was troublesome for some days, after which it yielded to the ordinary treatment.

PREMATURE LABOUR—ARM AND FUNIS PRESENTING—HEMORRHAGE.

18. Mrs. G.'s seventh labour was premature at the seventh month, the

child—a boy—presenting with the arm, complicated by prolapsed funis, was delivered by version, but stillborn, it evidently having ceased to live for some time previously; a great amount of hemorrhage preceded and followed upon delivery, which was arrested by large and repeated doses of tincture of opium, together with cold applications. As soon as the fatigue of labour had passed off, she was given small and repeated doses of calomel with opium. On the second day some uneasiness, accompanied by slight tenderness on pressure, over the uterus, was experienced, which yielded to the mercurial treatment and stuping. The lochia were natural in appearance, but scanty; the mouth was slightly touched, and the milk was abundantly secreted on the fourth day. It is rather unusual for hemorrhage to continue after version; and in this case I am inclined to think that it was kept up by the diseased condition of the os and cervix, which were both inflamed and ulcerated—another predisposing cause to the hysteritis above alluded to.

UTERINE DISEASE—INNUPTA.

19. Miss S. came up to Dublin, from the south-west of Ireland, to be confined of her first living child—a female. Early in the preceding year she was under treatment for severe inflammatory congestion and ulceration of the os and cervix uteri, with enlargement of the organ; evidently produced by arrest of sub-involution of the uterus, consequent upon abortion. Almost immediately on the removal of the disease she proved pregnant, and suffered intensely from sickness of stomach during the entire period of gestation. In a few hours after the birth of this child she was given small and repeated doses of blue pill with opium. On the second day she had some slight uterine tenderness, without any arrest of, or other change in, the lochia; which, however, yielded to a persistence in the use of the pills, in conjunction with stuping and bran poultices. The milk was fully secreted on the fourth day, and she nursed the baby for about a week, being then obliged, from the circumstances of her case, to hand it over to a wet-nurse.

EPIDEMIC.

20. Mrs. N., residing a short distance from the city, after a very tedious first labour, was naturally delivered of a male child. As many deaths were then occurring in her immediate neighbourhood, as well as in the city, from puerperal fever—then epidemic—I ordered her to have small and repeated doses of calomel with opium, commencing immediately on delivery. On the evening of the same day she complained of great pain over the uterus, together with much tenderness upon pressure. The lochia had ceased. Her pulse, which had not come down after delivery (almost always a sign foreboding mischief), was very rapid, bounding, and wiry. I at once bled her to fainting; having first placed her in the erect position. The calomel and opium pills were given in larger doses and at shorter intervals; mercurial frictions, hot and dry bran poultices having been also employed. On the following day she was much better, and continued to improve from day to day. The milk was well secreted on the fifth day, when she nursed her baby, and continued to do so for the ordinary period. A severe attack of diarrhea set in; but not before the

mercury had removed the disease and affected the system ; it, however, yielded to treatment. Her pulse kept up for some days, but came down under the use of digitalis with Dover's Powder.

UTERINE DISEASE—EPIDEMIC.

21. Mrs. E. had a very tedious labour with her first child—a male—which was brought into the world by the lever. As this patient had on a couple of occasions aborted, as there was reason to believe in the existence of uterine disease, as the pulse had not come down after delivery, and as puerperal fever was then epidemic, she was, without any delay, given small and repeated doses of blue pill, calomel, and opium. On the second day the pulse was very rapid and wiry. There was some deep-seated tenderness in the left inguinal region, only discoverable by steady pressure with the points of the fingers ; the lochia were scanty, fetid, and bad coloured. Eight leeches were at once applied, and followed by repeated relays of linseed-meal poultice ; the pills were given at shorter intervals, and mercurial ointment was rubbed daily into the axillæ and inguinal regions. On the eighth day the pulse had come down to the natural standard, all inflammation had been subdued, and the milk was fully secreted. This female, on a subsequent occasion, fell into other hands, but died of puerperal inflammation ; remedial measures not having been employed till too late.

UTERINE DISEASE.

22. Mrs. D. came to Dublin, from a midland county in Ireland, for her third confinement. She was seized with labour in the train on her way up. After the birth of the child—a female—some slight draining set in, which ceased on the placenta coming away. As this lady had been under treatment for uterine disease, but proved pregnant before its complete amotion, and as the pulse kept up after delivery, she was without delay put on small and repeated doses of calomel, blue pill, and opium. On the following day a very sharp attack of hysteritis set in, with arrest of the lochia. The pulse was very quick, full, and bounding. She was placed erect in bed, and bled to fainting ; the pills were given in larger doses and at shorter intervals. Hot bran poultices having been kept constantly employed over the uterus, in a few days the disease was completely removed, the lochia had returned naturally, but milk was not secreted. A severe and troublesome diarrhea set in, which eventually yielded to treatment ; but the mercury had previously affected the system, as evidenced by a sore mouth, &c. The uterine disease was long since removed ; and this lady has had four children, without any return of the inflammation, or of the uterine affection.

EPIDEMIC.

23. Mrs. R. had a very tedious confinement with her first child (a boy), apparently caused by neglected false pains, terminating in labour. Stimulating enemata, ergot of rye, and other means having failed to effect delivery, recourse was at length had to the lever. Almost immediately afterwards, this lady was given small and repeated doses of

calomel and opium. On the evening of the second day severe hysteritis set in, the lochia having been suddenly suppressed. She was then placed in the erect posture, and bled to fainting. Pills were continued in larger doses, and at shorter intervals. During the first two or three days, as tenderness continued, small relays of leeches, followed by linseed-meal poultices, were employed; and finally a blister was required before all uneasiness was removed; but then she rapidly recovered—the system having been affected by the mineral, as evidenced by the state of the mouth, breath, &c. Diarrhea then set in, but was gotten under by ordinary treatment. Mrs. R. had rather severe secondary hemorrhage on the eighth day after her second accouchement, and subsequently was under treatment for uterine disease. She has had two children since, and is now in perfect health, and residing in the west of Ireland.

UTERINE DISEASE—HEMORRHAGE.

24. Mrs. D. suffered severely from hemorrhage after the birth of her first child (a boy), but which eventually yielded to cold affusions, cold water enemata, cold water vaginal injections, together with large and frequent doses of tincture of opium. In consequence thereof, as also of her having been cured of uterine disease following abortion shortly before she conceived of this child, she was, immediately upon delivery, placed on small and repeated doses of calomel and opium. On the morning of the third day the pulse was very quick and wiry; she complained greatly of tenderness upon pressure over the uterus, and of pains of a spasmodic and periodic character. She had her legs drawn up, not being able to bear the pressure of the bedclothes; and the lochia were suppressed. Ten leeches were at once applied over the uterus, and followed by relays of linseed-meal poultices; and the pills, increased in strength, were given at shorter intervals. On the following day she was somewhat better, the tenderness being less, but not removed. Six more leeches were employed, followed, as before, by linseed-meal poultices. On the sixth day, as all unpleasant symptoms had been removed, the milk being fully secreted, the mouth slightly sore, all medical treatment was abandoned. She had not any diarrhea, and nursed her baby for several months.

PREMATURE LABOUR—HEMORRHAGE.

25. Mrs. W., at the end of the seventh month of her fourth pregnancy, had a very smart attack of rheumatic gout, which yielded to appropriate measures, but at the termination of the eighth month labour was induced by neglected diarrhea, caused by an over-dose of castor oil. The child, a female, presented with a foot, and died 24 hours after its birth, healthy respiration not having been established. Immediately upon the expulsion of the placenta very brisk hemorrhage set in, but was arrested by cold applications, together with large and frequent doses of tincture of opium. As soon as was advisable afterwards she was given small and repeated doses of calomel, with bismuth and opium. On the second day she complained of tenderness on pressure over the uterus, but only when performed deeply by the points of the fingers. The

lochia were pale and scanty. The pulse was very quick and compressible; the tongue foul. Eight leeches were then applied, followed by linseed meal poultices, and the pills were repeated at shorter intervals. On the following day, the tenderness not having been removed, the leeching and poulticing, together with the pills, were repeated. On the fifth day, as the mouth was sore, all inflammation had been removed, and the breasts were distended with milk, all further medical treatment was given up.

EPIDEMIC—VISITORS.

26. Mrs. B., during her second pregnancy, for some days prior to the advent of labour, suffered very much from false pains, induced by over anxiety and fatigue, and for which she neglected to have advice. The labour was tedious, irregular, and very painful; it passed off completely for two or three hours, on two occasions, but was eventually terminated through the agency of ergot of rye. In consequence of the character of her labour, and as puerperal inflammation was then epidemic, she was ordered to take, as soon as possible after delivery (in powders), small and repeated doses of calomel, opium, and bismuth. On the evening of the second day, as there was some tenderness over the uterus, accompanied by spasmodic pains, the lochia pale and scanty, the pulse quick, and the tongue foul—eight leeches, followed by linseed-meal poultices, were applied, and the powders repeated at shorter intervals. On the following day, the tenderness being still present, but not to such an extent, six more leeches, and poultices as before, were employed, together with a repetition of the powders. By this treatment the inflammation was subdued, the mouth was slightly sore, and the milk was fully secreted on the fourth day. She did not suffer from diarrhea. The child was very weakly when born, and only lived for about 24 hours. This lady had been much excited by visitors on the day of, and after, her confinement.

STIMULANTS—HEMORRHAGE.

27. Mrs. S.'s first labour was very tedious, from early rupture of the membranes, and eventuated in the birth of a stillborn female, presenting with the breech. On visiting her shortly before delivery I found her hot and feverish, the effect of some stimulant which the nurse-tender had given her. Almost consentaneously with the expulsion of the placenta, which was thrown off about the usual period, very severe hemorrhage set in, which was subdued by cold affusions, cold water enemata, cold water vaginal injections, and large and repeated doses of tincture of opium. As soon as prudent afterwards she was ordered small and repeated doses of blue pill, with bismuth and opium. On the following day, at evening, there was much pain, with tenderness, on pressure, over the fundus uteri, the lochia were pale, fetid, and scanty; the pulse was rapid and compressible, and the tongue foul. Eight leeches were then applied, and followed by linseed-meal poultices. Pills repeated at shorter intervals, with the addition of calomel. As the pain and tenderness were less, but not completely removed, on the following day, six more leeches were applied, with a repetition of the poultices and pills. On the fourth day, all unfavourable symptoms having been removed, the mouth being sore.

and the breasts distended with milk, all further medical treatment was abandoned. She had not any diarrhea, nor tendency to it. I am credibly informed that this lady died, after a subsequent confinement, from phlebitis, under the care of another physician, who employed neither prophylactic nor any other treatment until too late to save her.

UTERINE DISEASE—ABORTION—EPIDEMIC.

28. Some years since I was summoned hurriedly to visit Mrs. H., then residing about five miles from Dublin. On my arrival, I found that she had just aborted at the eighth week of utero-gestation. On investigating her case, I learned that during each year of the previous six she had aborted four or five times, but at different periods of pregnancy. That this state of things was produced by uterine disease I had no doubt; for, in fact, ulceration was discoverable at the os, by the finger, when removing some clots from the vagina. In consequence of this complication, and as puerperal inflammation was then epidemic, and very fatal, I, without any delay, ordered her small doses of blue pill, with opium, every fourth hour. On the next day the pulse was very quick and wiry; the tongue white and furred; some tenderness was discoverable, by deep and steady pressure with the points of the fingers, in the right inguinal region. Six leeches were then applied, and followed by relays of linseed-meal poultices; and the pills, with the addition of calomel, were given at shorter intervals. The lochia were natural. On the third day the pulse had come down a little in frequency, but was not altered in character, and the tenderness was somewhat less. Six more leeches were applied, and followed by poultices as before. Diarrhea had set in, but was arrested by astringents, and by arrest of the pills, in lieu of which she had others containing small doses of calomel, masked by bismuth and opium. In the evening of same day one of the leech-bites was bleeding profusely, and had resisted all the ordinary means of arresting the flow, which, although the inguinal uneasiness still continued unabated, I thus proceeded to do:—I passed a fine needle through the bite, and formed a twisted suture by means of some fine thread. This is always a sure and safe remedy, and may be employed at the most tender age. The tongue was typhoid; the pulse quick and weak; the lochia scanty, brown, and fetid; she was restless; had had irregular rigors during the day; in fact, there was every evidence of blood-poisoning. A blister was applied, and dressed with mercurial ointment. The pills were then stopped, and she was ordered infusion of bark, with chlorate of potash, and sesqui-chloride of iron, as also beef-tea. After a few days under this treatment she began to improve, and finally recovered; but for fully ten days a tumour was to be felt plainly in the right inguinal region, which I thought would have terminated in pelvic abscess; but it gradually disappeared. About two months subsequently this lady visited me, when, on examination, I found the womb much enlarged, but not hardened; its os and cervix being very much ulcerated, of a dusky brick colour, and of a malignant aspect. On her next visit matters looked more unpromising, when I procured some of the discharge from the ulcer, which my friend, Mr. Maurice Collis, very kindly examined under the microscope, and

pronounced the disease to be "soft cancer of a very rapid growth," thereby confirming my diagnosis and prognosis, which I had previously stated to her husband. It is worthy of remark here, that a similar specimen was sent for examination to another microscopist, who stated, that "it presented no abnormal feature." As her husband and friends were not quite satisfied, I proposed a consultation, and two of the then leading men in the profession saw her with me, neither of whom would confirm my opinion, but advised a continuance of the treatment she had been undergoing; but I still adhered to my own opinion. After a very short further trial, I stated to her husband that, as I still considered her case hopelessly incurable, I could not conscientiously continue my attendance, and advised all further treatment to be abandoned, with the adoption of a nourishing and tonic diet; but as they yet had hope, or rather "hoped against hope," she returned to her former medical attendant, who denied that she had then or ever had any disease of the womb. Suffice it to say, that in a very few months afterwards her sufferings became so intense that even her very astute physician (whose ignorance I firmly believe was the cause of all her illnesses) was obliged to change his opinion, when very shortly after "she was numbered with the dead."

EPIDEMIC.

29. Mrs. F. came up to Dublin from the west of Ireland for her first confinement, it having been supposed that she had deformity in the pelvis, but for what reason I cannot say. Her labour was very tedious, requiring the use of ergot of rye, and, finally, the lever for its completion in the birth of a male child, which was very weak at birth, and died within the week of a very severe attack of erysipelas. As puerperal inflammation was then epidemic, her labour difficult and harassing, and as the posterior wall of the vagina was thickly studded with warty growths very much of a syphilitic appearance, I ordered her to have immediately after delivery small and repeated doses of calomel, with opium and bismuth, in pill. On the third day, although there was some tendency to the coming of the milk, there was a great amount of tenderness over the fundus uteri; the pulse was very quick and hard; the lochia scanty, ill-coloured, and fetid. Eight leeches were at once applied, and followed by relays of linseed-meal poultices, and the pills were given at shorter intervals. On the following day the tenderness was somewhat less; six more leeches were applied, and followed, as before, by linseed-meal poultices, and the pills were repeated. In a couple of days after, the mouth was sore, the breasts were distended with milk, the lochia had returned healthily, and all inflammation, together with the vaginal warts, had disappeared. She had not diarrhea till the second week, and then caused by improper and forbidden diet.

EPIDEMIC—TEDIOUS LABOUR.

30. Mrs. A. had a very tedious and harassing first labour, terminating in the birth of a female child, by means of the lever. As about that time I had met with some slow recoveries in childbed, and as puerperal

fever was then epidemic, I prescribed for her pills of small doses of calomel with opium and bismuth, to be taken every fourth hour, commencing immediately after the termination of labour. On the following day there was much tenderness and pain over the fundus uteri, the lochia pale, together with all the ordinary symptoms of hysteritis. Eight leeches were at once applied, and followed, as in other cases, by relays of linseed-meal poultices. The pills were given at shorter intervals; and mercurial ointment was rubbed twice daily into the groins and armpits. On the next day she was much better; but as the tenderness, to some amount, remained, six more leeches were applied, and the poulticing continued. On the fifth day all treatment was abandoned, as all unpleasant symptoms had been removed. The mouth was slightly mercurially sore, and the milk was secreted. She had not diarrhea at any time; and she nursed her baby for the usual period.

EPIDEMIC—FALSE PAINS, ENDING IN TEDIOUS LABOUR.

31. Mrs. S. came up to Dublin from the County Cork for her first confinement. For some days prior, and up to the advent of labour, she suffered very much from false pains; for which she neglected to have advice. Her labour was tedious (32 hours), requiring for its completion the use of the lever, by which a very fine large living boy was born. In consequence of the character of her labour, and the then prevalence of puerperal inflammation, I ordered her to take a pill containing a small dose of calomel with opium and bismuth, every fourth hour, commencing immediately after delivery. During the first night she got out of bed to get a drink, as the nurse slept so soundly that she failed in awaking her. On the following morning she was hot and feverish, with a very quick and wiry pulse; great pain, with tenderness, existed in the left inguinal region; lochia were suppressed; and, before my visit, she had had a rather severe rigor.

Ten leeches were at once applied; followed by linseed-meal poultices, renewed from time to time—which, in such cases, act as a perpetual stupe, as well as by keeping up the bleeding from the leech-bites. The pills, of calomel, opium, and bismuth, were given in larger doses, and at shorter intervals, and mercurial ointment was rubbed twice a day into the axillæ and groins. On the fifth day all treatment was discontinued, as all symptoms of disease had been removed—the milk was well secreted, and the mouth was slightly sore from the mineral. She had not any diarrhea; but continued to nurse her baby.

HEMORRHAGE—VISITORS.

32. Mrs. W.'s first labour was very tedious, requiring the use of the lever for its completion. Much hemorrhage set in after the expulsion of the placenta, which was thrown off at about the usual period. As soon as possible after delivery small and repeated doses of blue pill with James's Powder were administered; no opium was added, as the bowels were much constipated. On the second day diarrhea set in from some error in diet, and slight deep-seated tenderness was discovered in the right iliac region, by steady pressure with the points of the fingers; but which ordinary pressure with the flat of the hand failed to recognize.

The pulse was very quick and wiry; the tongue whitish and creamy; lochia pale. The bowel attack was removed by astringents; six leeches were applied, and followed by linseed meal-poultices. For the pills were substituted others containing small doses of calomel, guarded by bismuth and opium. Mercurial ointment was also twice daily rubbed into the axillæ and the groins. In a couple of days, as all the bad symptoms had disappeared—the milk being well secreted—all treatment was suspended; but the mouth was not sore. On the sixth day she was much excited by visitors, who were admitted to her room contrary to my orders. The following day I saw her, when the pulse was very quick, but weak and compressible; the lochia were discoloured and fetid. She had not slept during the night; but was restless, and had a rigor. Her then symptoms caused me much anxiety, as I feared she was about to have pyæmia; however, not the least tenderness, after the most minute and searching examination, was discoverable. She was at once given bark, with chlorate of potash and sesqui-chloride of iron; and, subsequently, prussic acid, with morphia, to lessen the frequency of the pulse, which had the desired effect. After a few days she had a mild attack of phlegmasia dolens, commencing with pain and tenderness in the calf of the right leg, of which she rapidly and completely recovered; and was enabled to nurse her child—a very fine boy. I think there can be little doubt that but for the very active measures so early adopted in the first instance, this case should not have terminated so favourably. This lady has since had another child (a female), after a very quick labour, from which she had a rapid and good recovery. One of her sisters has had, on two or three occasions, very severe attacks of phlegmasia dolens, evidently of a phlebotic nature; and on one occasion (the last) her recovery was, for some time, considered hopeless.

UTERINE DISEASE—HEMORRHAGE.

33. Mrs. R., a lady of a very highly nervous temperament, came to Dublin, from the North of Ireland, for her first confinement, which was very tedious. Consentaneously with the expulsion of the placenta a pretty brisk hemorrhage set in, but was subdued by cold applications, cold water enemata, and tincture of opium in large and repeated doses. As soon as the fatigue of labour was over I ordered her to have small and repeated doses of blue pill, with bismuth and opium. On the morning of the third day there was some abdominal uneasiness, with obscure uterine tenderness, discoverable only by deep pressure with the points of the fingers; the lochia were suppressed, but there was not any tendency to the secretion of milk. The pills, with the addition of calomel in small doses, were repeated as before; the entire abdomen was well stuped, and kept covered with bran poultices. In a few days all unpleasant symptoms had disappeared; the lochia had re-appeared healthily, but milk was not secreted. It was not considered requisite to push the mercury so as to affect the system, nor was there any diarrhea. Early in the preceding spring Mrs. R. consulted me on account of sterility, she having been married some years without ever having proved pregnant, evidently caused by endo-cervicitis, for, almost immediately upon its removal, she became *enceinte*.

INTRODUCTION OF HAND FOR RETAINED PLACENTA.

34. I was called by my friend, Dr. —, to see, with him, a Mrs. D., in whom the placenta had been retained for a couple of hours, in her fourth labour. The hand was introduced with some difficulty, as the os was much contracted, and the placenta was not detached, from inertia; it was, however, then easily removed, without any hemorrhage having followed. Before leaving, I recommended my friend to commence giving her, at once, small doses of calomel, blue pill, with opium and bismuth, every third hour, and to look out for symptoms of inflammation. On the evening of the second day the pulse was found quick and wiry, the lochia suppressed, with much uterine tenderness and pain. Eight leeches were then applied, and followed by bran poultices, renewed from time to time as they cooled; the pills were repeated. On the fourth day, as all inflammation had been removed, as the milk was fully secreted, the lochia had re-appeared, and the mouth was slightly sore, all treatment was given up. She had not diarrhea at any period of the illness.

ARM PRESENTATION—VERSION.

35. I was carried away hurriedly, one evening, by my friend, Dr. —, to visit a lady (Mrs. G.) with him, at some distance from Dublin, in labour of her third child. On our arrival, we found the hand on the perineum, the shoulder occupying the brim of the pelvis, the uterus contracted on the body of the child, but there was little or no uterine action; she was very much flushed, with a quick pulse, undoubtedly caused by stimulants administered to her by the nurse before we had arrived. She also having, as she confessed afterwards, mistaken the hand for a foot, drew it down, and thus complicated matters. Version was then performed without much difficulty, but the child was stillborn, and, from all appearances, had been dead for some hours. At my suggestion Mrs. G. was immediately put on small doses of calomel, with opium and bismuth, to be taken every third hour. On the second day the pulse was 130, and wiry, with suppressed lochia, and much tenderness over the uterus and abdomen; she was then given two grains of calomel, quarter of a grain of opium, and two grains of subnitrate of bismuth, every second hour; six leeches were at once applied, and repeated in the evening; on each occasion being followed by bran poultices, renewed as they became cold. On the morning of the fourth day all treatment was stopped, as all evidences of disease had been removed; the lochia had reappeared naturally, and the milk was fully secreted. She had not any attack of diarrhea.

INNUPTA—PREMATURE LABOUR—EPIDEMIC.

36. I was summoned, by telegraph, to visit Miss L., at about seven miles from this city, who had given birth to a stillborn female, at the sixth month of utero gestation, child and secundines having been expelled by one pain just as I had entered the house. She then informed me that she had been seduced under promise of marriage; but that she had not the most remote idea of her condition, till after my arrival, she most solemnly declared. Her increased size had not excited any suspicion amongst her friends, doubtless, the present hoop fashion so well con-

cealing it. In consequence of the nature of her case, and of the then great prevalence of puerperal fever, I lost not an hour in adopting preventive measures; and, in accordance thereto, ordered for her pills containing calomel and blue pill in small doses, with opium and bismuth at intervals of every four hours. On the following morning the pulse, which had been quiet, had risen rapidly and was wiry, the lochia were suppressed, and there was much pain and tenderness in the womb. The pills were then ordered at shorter intervals, the quantity of mercury having been increased, and eight leeches, followed by relays of linseed-meal poultices, were applied. On the next day the inflammation was much less, but the pills were still repeated, and the poultices employed as before. On the fourth day, as the lochia had reappeared, the mouth was sore from the mineral, and all unpleasant and dangerous symptoms had been removed, all antiphlogistic treatment was given up. On the fifth day the breasts were much distended with milk, which gave her much annoyance for a couple of days. Strange to say, the vulva had been very much inflamed, with several sloughy spots, which gave way to poultices well moistened with a solution of chloride of lime, and injections of warm milk and water first, and, after, of the solution now named, into the vagina; infusion of bark with chlorate of potash being taken in mixture. She had not any diarrhea; but eventually recovered completely, and went to reside in the country.

UTERINE DISEASE—HEMORRHAGE.

37. I was hurriedly summoned to visit Mrs. F., at about three miles from Dublin, who, shortly after my arrival, aborted at the fourth month of pregnancy; fetus and secundines having been expelled together; immediately after which very violent hemorrhage set in, but was soon controlled by cold dashings, and large doses of tincture of opium. From the history of this lady's case, the occurrence of the hemorrhage, and the, doubtless, presence of uterine disease, I, without any delay, put her on small and repeated doses of blue pill, with opium and bismuth. On the following morning I found the pulse quick, which I attributed to the loss of blood, and the over-action of some cathartic medicine. I directed the pills to be omitted until the purging had ceased, but then to be resumed, which was done towards evening; after which she had not any return of the bowel complaint. On the third day, as the pulse was still very quick but wiry, the lochia lessened, and some obscure tenderness was discoverable by digital pressure in the left inguinal region, the pills were repeated at shorter intervals; mercurial ointment was laid in the axillæ and inguinal regions; and also six leeches, followed by linseed-meal poultices, were applied. In a couple of days after, as all symptoms of inflammation had been removed, and the breasts were very much distended, from which she suffered very much, the pills, &c., were stopped. This and the former case illustrate a curious fact, nevertheless true, that often females suffer more from such states of the breasts during the earlier periods of pregnancy than at "terme." In the spring of 1848, this lady came, with her family, to reside in Dublin, from an inland county in Ireland. When in the city for a few days she became very ill, and was attended by a medical friend from the country, who happened then to be in Dublin on

business; but as he was called suddenly home, without being able to make any arrangement for her subsequent treatment, I was sent for on the following day, but was not informed that any other medical man had previously seen her, nor what was said to be her "ailment." Suffice it to say that I found her in a high state of fever. After quitting her room, her mother said to me, "How do you find Grace to-day?—has all infection gone?" "From what?" I replied. "From scarlatina; for Dr.— said such was her disease." "Perhaps so; but she has not it now," was my reply. "Then what is it?" "I tis just now impossible to state positively her complaint, but I am of opinion that if she has never been unwell, she is now about to be so." I then ordered a mustard pediluvium, a diaphoretic mixture, and a bran poultice over the lower part of the abdomen—and left. On visiting her on the following morning, I found the pulse quiet; all fever gone; in fact she was well, but the catamenia were well established, having appeared the evening before. In the year 1854 Miss J. married, and went to reside in the north of Ireland. About four months after her marriage she miscarried, from fright, having been then three months pregnant. In 1856 she came to Dublin to consult me, and said that about two months before she had miscarried, after which she had been put into a couple of hot baths, notwithstanding she had perceptibly increased in size, which was supposed to be dropsy. However, on examination, I told her she was still pregnant, and carrying a living child, as evidenced by the stethoscope. She then returned home in great spirits, determining to come up to town for her accouchement, but was afterwards prevented by family matters from doing so. With this child she had a tedious labour, complicated by hemorrhage, and followed by puerperal inflammation. Afterwards she had three living children, and each of the labours was followed by hemorrhage. Subsequently she aborted twice—once at six weeks, and once at seven weeks—after which in August, 1862, she came to reside near Dublin, at which time the last abortion occurred. In conversation she mentioned, that after each of the last two miscarriages she had suffered extremely from milk in the breasts, causing high fever for some days. She has since been under my care for disease of the uterus and ovary, but she is now in excellent health; in fact, she says she has not enjoyed such health for years.

STIMULANTS—HEMORRHAGE.

38. Not very long since I was called to see Mrs. M., who was bleeding profusely. On my way I was informed that her labour was progressing very favourably, when the medical attendant induced her to take some almost fabulous amount of brandy, shortly after which, before delivery, very violent hemorrhage took place; and but for the active interference of an experienced nurse-tender, who insisted upon further advice, I firmly believe this patient should have lost her life. On my arrival in her bedroom I found her doctor armed with a glass of brandy and a dose of ergot, being about to administer both, neither of which, however, I permitted her to take, she having had too much of both. I then gave her a full dose of laudanum, applied some cold vinegar and water to the vulva, and bound her up with pads. She had not any return of the bleeding,

and fell asleep for a couple of hours. As soon as possible after awaking, she had small and repeated doses of blue pill, with opium and bismuth. She went on well until the evening of the second day, when some obscure tenderness was observed by digital pressure in the right iliac region. Small leechings, fomentations, and poultices were employed, and the pills, with the addition of calomel, were repeated at shorter intervals. By these means the disease was removed. She never had diarrhea, but the milk was fully secreted; after which she nursed her baby for the usual period.

INNUPUA—THREATENED CONVULSIONS—TEDIOUS LABOUR.

39. Miss —, after a very tedious first labour, was delivered, by the force, of a male child. About six weeks previous to the advent of labour she had all the premonitory symptoms of puerperal convulsions, which were removed, and thus the disease prevented by appropriate treatment. Immediately after the birth of her child, &c., she was ordered small and repeated doses of blue pill, with opium and bismuth. On the third day there was much tenderness over the uterus, to the left side; the lochia were scanty, of a bad colour, and offensive odour; and the pulse was very quick, but not wiry; and no secretion of milk, or tendency to it. Ten leeches were then applied, followed by linseed-meal poultices; and the pills, with the addition of small doses of calomel, were repeated, but at shorter intervals. On the following day the tenderness was very nearly removed; and she complained of a brassy taste in the mouth. The pills were given at longer intervals, and bran poultices were kept constantly applied during the day, and succeeded at night by a couple of folds of hot flannel. In the evening of the next day all medicine was stopped, as all the inflammatory symptoms had been removed, and the milk was coming to the breast—which was allowed at first fully to be secreted, and then to disappear, as she did not wish to nurse. She continued to progress very favourably for some days; when, one morning, I found her very much excited, in consequence of some family annoyance. She was sleepless, with a rapid and irritable pulse; however, by means of draughts, consisting of prussic acid, digitalis, and morphia, the pulse came down to its natural condition—her sleep returned to her—and she made a good recovery. She had not diarrhea at any period of her illness.

INNUPUA—EPIDEMIC.

40. About two years since, I was called, hurriedly, to see Miss —. She was said to be suffering from inflammation in the bowels, and had been in pain during the greater part of the night. On visiting her I examined the abdomen, which, from its appearance, led me to examine further, when, to the surprise of her mother, I declared her to be far advanced in labour. However, although her labour was good, I determined to employ preventive treatment, in consequence of her friends having deserted her—leaving her only in the charge of a nurse—superadded to her own mental torture, and the fact of there then being a prevalence of puerperal fever. Accordingly, immediately after delivery, I ordered her small and repeated doses of blue pill, with opium and

bismuth. On the second day there was some obscure tenderness over the uterus, discoverable by digital pressure, with a quick, irritable pulse and arrest of the lochia. Eight leeches were at once applied, followed by linseed-meal poultices; and the pills were given at shorter intervals. In a couple of days after she was free from all pain and tenderness. The milk was fully secreted; but she did not nurse. She had not any diarrhea. This lady has since been married to the father of her first child; and since then has had another, followed by a good and quick recovery.

UTERINE DISEASE—HEMORRHAGE—EPIDEMIC.

41. Mrs. P. consulted me on account of sterility, she having been for some years married without ever proving *enceinte*. On examination, a very severe endo-cervicitis was discovered; however, after appropriate treatment the disease was removed. But before I gave permission, she and her husband—who had been separated—lived together again; when, almost immediately, she became pregnant. With this child (a female) she had a very tedious labour, requiring for its completion the aid of the lever. Very severe hemorrhage set in, consequent upon the nurse (behind my back) having forced away the placenta prematurely. For those reasons, and puerperal fever being then rife in Dublin, I ordered, at once, small and repeated doses of blue pill, with opium and bismuth. She progressed favourably until the night of the second day; when I was called out of my bed to see her, as she was in great pain. On my arrival I found her seated upon the night-chair, with a very excited appearance. After a good deal of persuasion I induced her to return to her bed; after which she became quiet, and stated that up to half an hour before I was sent for she felt herself quite well; when, as she required to have the bowels moved, the nurse permitted her to get out of bed for that purpose. She had not been long there when she had a rigor, followed immediately by pain in the womb; but nothing could induce her to move until I arrived. She complained much of tenderness on pressure over the uterus, and pain of a spasmodic nature. The lochia were suppressed; and the pulse was quick and wiry, but no tendency to lacteal secretion. Ten leeches were immediately applied, and followed by linseed-meal poultices. The pills, with the addition of calomel, were given at shorter intervals. In a few days, as the disease was gotten under—the mouth having been made sore—all treatment was given up. She had not diarrhea; but the milk was well secreted, and she nursed her baby—who, for the first ten days from its birth, had a very severe attack of erysipelas of the neck, terminating in an abscess, which was opened, and the child eventually did well.

STIMULANTS—HEMORRHAGE.

42. Mrs. C., when in labour of her first child, was kept in a small close room, with a large fire, and was well plied with wine and brandy by an ignorant nurse-tender. When she had been for some hours in labour I was sent for. On my arrival I found her flushed, with a quick pulse, and her labour so far advanced that there was not time to cool her or her room sufficiently. Very shortly after she brought forth a female child, which was rapidly followed by severe hemorrhage, which was

arrested by cold applications to the vulva, cold water enemata, and vaginal injections, together with large and repeated doses of tincture of opium. As she also had some bronchitis, she was given small doses of blue pill, hippo, and morphia, in pill, every third hour. On the following day the pulse was very quick and wiry, the lochia pale and scanty, and there was tenderness over the uterus. Eight leeches were then applied, and followed by linseed-meal poultices; mercurial ointment was rubbed into the axillæ and groins twice daily; and she had a pill consisting of calomel, James's Powder, bismuth, and opium, every third hour. On the third day she was somewhat improved, but remedies were ordered to be continued. Her friends, not knowing that no amendment can be depended on which does not last for 24 hours, stopped all treatment as soon as I had left the house; in consequence of which, on the next morning she was not so well, but had some deep-seated tenderness in the right ovarian region, only discoverable by steady digital pressure. The pills were again resumed, and a blister, well camphorated, was applied to the affected part. (I have never met in my practice a case of strangury where I employ camphor thus.) On the fifth day the pills were stopped, as diarrhea had set in, from an error in diet, which was gotten under by an astringent mixture and opiate enemata; the pulse was very rapid and weak. She was then given quarter of a grain of opium and half a grain of quinine every second hour, which, on the following day, was changed for one grain of quinine and one-sixth of a grain of opium, every second hour, as the bowels were inclined to be confined; she also had brandy in large quantity, night and day; and, as she was sleepless, she had one anodyne at night and another coming on morning, till her sleep was restored to her; her bowels were kept open by mild and anti-flatulent enemata. This lady eventually recovered, but was kept in bed for nearly two months. For a long period there was every reason to fear the formation of a pelvic abscess, a tumour having been easily felt in the right inguinal region, but which finally, but gradually, gave way to absorbent liniments and blisters. I think we may safely assert that Mrs. C.'s life was saved by the early administration of the mercury, and that the too early stopping of it by her friends was the cause of her following serious illness, as, when the error was discovered, it was not deemed prudent to push it to any extent, when the tonic and sedative treatment, &c., so happily came in. I am aware of a somewhat similar case, in which a lady was let out too soon to drive, in consequence of which a pelvic abscess formed, and opened by the rectum; but she, though young, has ever since—now some years—been sterile.

IMPROPER DIET—VISITORS.

43. Mrs. L., after a natural labour of ten hours' duration, was delivered of her first child, a female. Everything progressed favourably up to the third day, when the milk was well secreted, the breasts having been much distended; but in the afternoon the nurse, contrary to my expressed directions, admitted visitors to her room, and induced her to partake of some wine and rich cake, which had been produced for them. On the following morning I was hurriedly sent for, when I found the pulse very quick and wiry, the tongue covered with a white fur, the abdomen

tympanitic, together with much pain and tenderness in the right iliac region; the lochia were light-coloured and scanty, and the breasts had become quite flaccid from recession of the milk. Eight leeches were at once applied, followed by relays of linseed-meal poultices, and small and repeated doses of calomel, with opium, were administered. In a couple of days all treatment was stopped, as the inflammation had been completely removed; the mouth was slightly affected by the mercury, but the milk did not return. She had not any diarrhea. The baby for some days had her buttocks and private parts thickly covered with a very suspicious-looking rash, caused by the nurse using the napkins a second time—not washing, but merely drying them; which condition I have, on more than one occasion, seen mistaken for syphilis. This lady has since had nine children, the last two of which she nursed. On all occasions she had a quick recovery, having learned, by sad experience, to mind the advice of her physician, and not that of her nurse. She now enjoys excellent health, and has not given up child-bearing.

STIMULANTS.

44. Mrs. R. had a very easy labour with her first child, a female. She progressed favourably until the evening of the second day, when she was suffering very acutely from spasmodic pain, and much tenderness over the uterus, caused by some brandy given to her by her nurse, and the lochia were suppressed. She was then bled to syncope, and ordered blue pill, with calomel and opium, every third hour, and the entire abdomen was covered with a bran poultice, renewed every second or third hour, according as each became cool. On the third day she was somewhat relieved, but no change was made in the treatment. Towards evening, on visiting her, I found that, having been persuaded by the said ignorant nurse to stop all remedies, she was not so well as in the morning. The above-stated treatment was resumed, but in the evening of the following day much tenderness existed in the left inguinal region, which was removed by leeching and blisters, dressed with mercurial ointment. The mouth was sore from the mineral, the milk was not re-secreted, and a troublesome diarrhea set in, but not before she was out of danger from the inflammation.

IMPROPER FOOD.

45. Mrs. B., the wife of a medical man, was delivered of her fourth child, a female, after an easy labour, and went on very well until the evening of the second day, when I was summoned in haste to see her. I found her very feverish, with a rapid, full, and bounding pulse, the lochia suppressed, no tendency to the secretion of milk, but the legs and knees drawn up, and crying out with exquisite pain in the womb, which was so tender that the slightest possible pressure was insupportable. On inquiry, I discovered that a couple of hours previously she had partaken of some corned beef and cabbage, for which, for some days past, she had been longing. I at once placed her upright in bed, and bled her to syncope, which gave her instant relief. She was given calomel and opium every third hour, and mercurial ointment was rubbed, twice a day,

into the axillæ and groins. As, in two days afterwards, all the inflammation had been removed, the lochia had returned, the milk was well secreted, and the mouth was sore, all treatment was abandoned. Diarrhea set in, but not until she was out of danger from the inflammation.

EXCITEMENT FROM VISITORS.

46. Mrs. B. had an easy and natural labour with her fourth child, a female. She progressed favourably until the second day, when, on visiting her, I found the pulse wiry and much accelerated; the tongue foul, covered with a white fur; the lochia suppressed; no tendency to a secretion of milk, but some obscure tenderness in the left inguinal region, only discoverable by deep and steady pressure with the extreme points of the fingers, which diseased condition I have no doubt was produced by a visitor who unguardedly revealed to her some unpleasant family matters. Six leeches were at once applied, and followed by relays of hot linseed-meal poultices. Pills, containing calomel, opium, and James's powder, were given every third hour. On the following day, as the tenderness had not been completely removed, six more leeches were applied, and followed, as before, by the linseed-meal poultices, and the pills were repeated. In a couple of days, after all treatment was given up, as all unfavourable symptoms had been removed, the milk was abundantly secreted, and the lochia had returned. Diarrhea set in, but not before the disease had been gotten under, and the mouth made sore; it was, however, speedily checked, and she nursed her baby afterwards for the usual time.

STIMULANTS.

47. Mrs. H. had an easy and natural labour with her first child—a female. She progressed very favourably (the milk having been secreted at the ordinary time) till the fourth day, towards evening, when having been hurriedly summoned, I found her in a high state of fever; the pulse rapid, full, and wiry; the tongue foul and white; the lochia suppressed; the breasts distended with milk; the legs and knees drawn up; and the uterus so exquisitely tender that the slightest touch gave her agony, which was periodically and spasmodically accompanied by pain in the organ. She was immediately placed upright in bed, and bled to syncope, after which she got great relief. She was then given calomel and opium in pill every second hour, and hot bran poultices were kept constantly applied over the uterus and the entire abdomen. Under this treatment, together with mercurial inunctions to the axillæ and groins, the disease was removed in a few days—the system, as evidenced by a sore mouth, having been affected by the mineral. The milk returned, and she was enabled to nurse. Diarrhea set in, but not till she was safe, and it was removed easily. The hysteresis in this case was induced by a quantity of raw brandy given to her by a friend during the absence of the nurse-tender from her room, which I am informed occupied only quarter of an hour, and within half an hour after her return the pain commenced.

INNUPTA—STIMULANTS.

48. I was brought, by a medical friend, since deceased, to visit Miss

B., who had been delivered, on the previous morning, of a female, her first child, with which I was informed she had had an easy and natural labour. On entering her room I found her lying on her back, the countenance most anxious, the legs and knees drawn up, and screaming with pain in the abdomen. She could not bear the slightest touch, so exquisitely tender was she in the entire abdomen; the pulse wiry, and too rapid to be counted; the lochia was suppressed. She had had a rigor, and was vomiting. This evidently was a case of peritonitis, commencing in hysteritis, as she said the pain and soreness began in the womb; generally the case, and one, for many reasons besides its very early appearance, calling for active measures. She was accordingly bled largely to syncope; mercurial ointment was rubbed into the axillæ and groins twice a-day; the abdomen was completely covered with hot bran poultices, frequently changed as they cooled; and she had calomel and opium in pill every second hour. On the following morning she was somewhat relieved; but it was considered requisite to apply a dozen leeches to the abdomen, and eventually a blister, which was dressed with mercurial ointment. In about a week all traces of the disease had been removed; the lochia had returned; the mouth was very sore; but the milk was never secreted; nor had she any diarrhea. The cause of her illness, besides seduction, was the fact of her having drunk a quantity of wine and brandy the evening of her confinement, at the suggestion of her nurse, and who afterwards neglected to send for her physician until she had been ill for hours.

UTERINE DISEASE—PREMATURE LABOUR.

49. One evening I was carried away, hurriedly, by a medical friend to visit a lady who was about to be prematurely confined. She had been very well up to an hour previously, when, on dressing for a ball which was to be in the house where she was on a visit, she took suddenly ill. On my arrival I found her pacing up and down her room, and in great pain, as on examination I found the pains were irregular and inactive. I gave her an opiate, which gave her rest for some hours, after which powerful and regular pains set in, and she was quickly delivered of a stillborn female, which had evidently been dead for some days. I shall not easily forget the birth of this lady's child, which was accompanied by music and dancing underneath us, but which had anything but an unfavourable effect upon her or her labour. I learned from Mrs. E.'s medical adviser that she never had a living child, but had had three or four abortions and premature confinements; after which, on investigating her case, I gave it as my opinion that some uterine disease was the producing cause, to which he would not agree. On the second day she had a severe rigor, followed by great pain and tenderness over the uterus; the lochia were suppressed; the pulse quick and wiry; the tongue covered with a white fur; and there was not any tendency to the coming of the milk. She was at once bled largely to syncope; the abdomen was covered with hot bran poultices, frequently changed; mercurial ointment was rubbed twice daily into the axillæ and groins, and calomel, with opium, was given every second hour for two or three days following; leeches, in relays, with linseed-meal poultices, were employed. After some more

days the pain, and all symptoms, with the exception of the quick pulse, were removed, when diarrhea having set in, mercurial treatment was abandoned. She then had a rigor, was sleepless and feverish, and the lochia were scanty and fetid. There was not any discoverable pain, tenderness, nor tumour; and at the end of ten days a quantity of pus was passed by the bowels, evidently of a phlebotic nature, after which she rapidly recovered. In a couple of months after her confinement I examined the womb, which, as I had predicted, was much diseased. A very large ulcer of the cockscorb character covered the entire os, which bled on the least touch; the cervix was much enlarged from inflammatory and congestive engorgement; as was also the organ itself. She was then put on appropriate treatment, which terminated in a cure, immediately after which she and her husband went to reside at the Cape of Good Hope; and since then she has had three or four living children.

ARTIFICIAL DRAWING OF THE BREASTS.

50. Mrs. K. had an easy and natural labour with her second child, a female. She progressed very favourably up to the evening of the fourth day, when I was hurriedly summoned to visit her. She then was very much flushed, with a rapid, full, and bounding pulse, the tongue coated with a thick white fur, and the lochia suppressed. She lay on her back with the legs and knees drawn up, and crying from extreme pain in the uterus, which came on spasmodically and periodically. She could not bear the least pressure over the womb, it was so exquisitely tender. I was very much surprised at her sufferings, as only a few hours previously I had left her with a quiet pulse, and the breasts distended with milk; but, as they were painful, I ordered the nurse to rub them with warm oil, and, at the same time strongly inhibited their being drawn by any other means than the baby's mouth. Having expressed to her my inability to account for the suddenness of her illness, she said, "Oh! the nurse drew my breasts with her mouth through a glass tube, when almost immediately the milk left me, and I felt the pain drawn down into the womb, which then became tender, and has continued so up to this." I at once bled her to syncope, having first placed her in the erect posture; and ordered her calomel and opium, in pill, every third hour; and had mercurial ointment rubbed, twice daily, into the axillæ and inguinal regions, together with the constant application of hot bran poultices over the womb. As puerperal fever was then rife in Dublin, the treatment was thus energetically employed. In a few days afterwards the inflammation had been removed, the lochia returned, but the milk was not re-secreted. She had not any diarrhea, nor tendency to it; but her mouth was very sore from the effects of the mercury on the system. One of the most eminent physicians in this city, at that time, saw this lady with me; who, on the occasion of his visit, in reply to her husband, who was regretting the state of her mouth, thus said:—"Sir, you ought to be very thankful that your wife is as she is. I have just now come from seeing a lady, in consultation, who before many hours shall be in eternity; and had the same measures, and with equal activity, been adopted in her case, as they have been in Mrs. K.'s, such an unfortunate result would not follow."

ADMISSION OF VISITORS.

51. Mrs. W., a young lady of a very excitable temperament, was, after an easy and natural labour of three hours, delivered of a female, her first child. She went on very favourably until the morning of the second day, when, contrary to my directions, visitors were admitted to her room. On seeing her, shortly afterwards, she was so very much excited that at first I thought she had taken some stiumulants; her pulse was so quick as not to be counted, and wiry; the lochia were very dark-coloured and fetid, and some obscure tenderness was discoverable, but only by deep steady pressure, with the points of the fingers, over the uterus. Six leeches were at once applied, and bleeding kept up by hot linseed-meal poultices, and powders containing calomel, opium, and bismuth, were given every third hour. On the third day the tenderness was less; she had been restless and delirious during the night, but had some quiet sleep coming on morning. The pulse and fever being as high as before, with a dirty, creamy, white tongue, six more leeches were applied, and followed as before by poultices, and the powders were repeated. On the fifth day, as all tenderness had disappeared, the lochia were natural, the mouth was slightly sore, and the milk was well secreted, all treatment was stopped. She had not any diarrhea, nor tendency to it, but for some days she suffered from milk fever, after which she rapidly recovered.

HYPERPURGATION.

52. I was called to Mrs. D., a lady residing in the suburbs, when in labour of her second child. I found her much excited and alarmed, as in her first confinement instruments had been employed; and her husband's first wife had died from hemorrhage in her first labour. She had been, some days previously suffering from false pains. I then assured her that she was not in any danger, and was progressing as favourably as I could wish; after which she became tranquil, and within the space of two hours gave birth to a living female child. She went on very well until the second day, when severe and troublesome diarrhea set in, caused by an overdose of a cathartic, given by the nurse without directions. In the course of that day some obscure tenderness was discoverable over the uterus; the lochia were pale and scanty; the pulse about 100. Small doses of calomel, with opium and bismuth, were given every third hour, and hot dry bran poultices were kept constantly applied over the entire abdomen. As all tenderness had disappeared on the fourth day, when the milk was secreted, the mercury, &c., was stopped, but there was not any return of the diarrhea; yet the pulse became very quick, and continued so for some days, but was brought down by means of small doses of digitalis and Dover's Powder; after which she had infusion of cinchona, with laurel water, and then rapidly recovered. She nursed her baby for the ordinary period.

I think that, from what has now been stated, we may fairly deduce the following:—

1. That the rate of mortality in childbed is by far too high.

2. That some form of puerperal inflammation is, in the great majority of instances, the cause of death.
 3. That puerperal inflammation is very frequently fabricated.
 4. That puerperal inflammation is often overlooked, either from ignorance or want of careful examination.
 5. That chloroform in many ways predisposes to a fatal issue.
 6. That the advent of puerperal inflammation can, in very many instances, be prevented; as also that the disease can be cured more frequently than it is.
 7. That, from the insidious character of puerperal inflammation, its rapid and fatal course, an early and active treatment is required for its removal.
 8. That, apart from other reasons, it is of the utmost importance to remove *post partum* inflammation quickly and completely; for upon imperfect cures of that malady it is far from unusual for phlegmasia alba dolens and other secondary forms of inflammation to follow during the puerperal period, as also, from such a contingency, chronic diseases of the uterus or pelvic viscera exhibit themselves at a still later period.
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ART. II.—*On Poisoning with the Berries of Atropa Belladonna; with Observations on the Mode of Action of Belladonna.** By THOMAS HAYDEN, F.R.C.S.I., L.K. and Q.C.P.I.; Physician to the Mater Misericordiæ Hospital.

ON Saturday, October 11, 1862, at 6 o'clock, p.m., Master Simon K., a fine healthy-looking boy, aged seven years, was brought into my study, by his two brothers, who reported that he had eaten a quantity of berries, about 10 o'clock that day, in a suburban demesne where he had been to take exercise in company with another boy; that he had returned at the usual dinner hour (3 o'clock), but had taken no dinner; that, whilst at tea, at 5.30, p.m., he appeared giddy, talked inarticulately, laughed causelessly, and was a subject of amusement to his brothers.

At 6, p.m., when the boy was brought to me, his face was somewhat flushed; pupils widely dilated; pulse, 138 and full; deglutition was performed with difficulty, and articulation unintelligible;

* Read before the Association of the College of Physicians, 20th May, 1863.

he laughed unmeaningly, was much excited, and ran about the room with a staggering gait, falling against the furniture as if intoxicated.

I declared the boy under the influence of poison, from eating the berries of the deadly nightshade, and ordered a mustard emetic, and $2\frac{1}{2}$ grains of comp. powder of ipecacuanha every second hour after the emetic had acted. A large quantity of the fruit pulp was ejected from the stomach under the operation of the emetic; the face now became deeply flushed, and coma and spasmodic twitching of the arms and legs quickly ensued; the tongue was dry and rough; the palate and pharynx congested; the pupils in a state of extreme dilatation; the pulse 140, full and bounding, and the feet cold. I directed that the head should be elevated, and a cold lotion kept constantly applied to it; the feet to be kept warm; the opiate continued, and strong coffee given as often as the patient could be induced to take it; the face and chest to be occasionally dashed with cold water from a hearth-brush, and an aperient, consisting of five grains of scammony and two grains of calomel, to be given immediately.

Three of the berries, which the child had thrown into the yard, were now brought to me, and fully confirmed the view taken of the case as being one of poisoning from the fruit of the *atropa belladonna*.

10, p.m.—Has had another attack of vomiting, and thrown up a large quantity of the mashed berries. Still deeply comatose. Ammonia to be applied to the nostrils, and coffee and cold aspersions continued.

Sunday, October 12, 8.45, a.m.—Had severe spasm of limbs in the course of the night; is semi-conscious, but still confused; speaks inarticulately; pulse, 120; face less flushed; tongue dry; pupils fully dilated. The powder not having acted on the bowels, a draught of castor oil was ordered, and iced water to allay thirst, which was urgent.

4.30, p.m.—Is now quite conscious, but somewhat confused, imagining his brothers and playmates in bed with him; pupils not quite so widely dilated; to have beef tea and another draught of castor oil.

Monday, October 13.—Was most turbulent last night, up to 4 o'clock—shouting, singing, laughing, and crying alternately, and trying to get out of bed. Face pallid; tongue moist; pulse only 72, and feeble; pupils dilated. The oil acted freely in the course

of the night, and brought away a large quantity of the black husks of the berries.

Tuesday, October 14.—Has slept well, and taken a good breakfast; is now out of bed; pulse, 82; pupils still slightly dilated, but in all other respects is in perfect health.

It will be observed that the early and the latter stages of this case were characterized by symptoms of nervous and vascular excitement closely simulating those of alcoholic intoxication. The consecutive depression, however, of alcoholic poisoning was absent, and represented here by a second stage of excitement. The intermediate stage was one of profound coma, in no respect distinguishable from that due to the excessive use of alcohol, save in the extreme dilatation of the pupil, and the congested and parched state of the mouth and pharynx.

It has been shown by the experiments, and examination of the bodies of persons who had died from the effects of belladonna, instituted by Orfila, that the cerebro-spinal centre and its investing membranes are in a state of extreme vascular congestion under the operation of this poison. This fact alone would be sufficient to account for the dilatation of the pupil, without assuming any specific action of belladonna as a mydriatic. We know, however, that belladonna may act as an excito-motor stimulant when applied to the eye, without at all giving rise to congestion of the ocular vessels. It would appear that, whether applied to the periorbital and palpebral integument or to the conjunctiva, it acts invariably upon the sympathetic supplied to the radiating muscular fibres of the iris, through the branches of the fifth pair of nerves distributed to these surfaces as its incident medium. Mr. Wharton Jones has arrived at the conviction, from experiments on the web of the frog's foot, that belladonna acts as a direct stimulant of the vaso-motor filaments of the sympathetic, thereby inducing contraction of blood-vessels, and by implication in a similar manner on the *dilator pupillæ* through the fibres of the sympathetic supplied to it.

I have carefully repeated these experiments of Mr. Jones', with the precaution, however, which he neglected, of first completely dividing the integument of the limb, higher up, by a circular incision, so as to cut off the sentient nerve-supply of the foot. The result has been totally different; for whilst, in Mr. Jones' experiments, and in those which I have performed under similar conditions, the application of a drop of the solution of extract of belladonna (20 grains to the scruple) caused immediate contraction of the

blood-vessels of the frog's web, in those which I have instituted, after taking the precaution already mentioned of dividing the integument of the leg, the result was simply negative—i.e., there was no contraction of the blood-vessels. Thus, in the web experimented upon after the method of Mr. Jones, there was a contraction of the vessel measured, on the application of belladonna, from a diameter of $\frac{1}{1000}$ to $\frac{1}{1000}$ part of an inch, as determined with my micrometer;* whilst the web of the opposite foot, treated in a similar manner after complete division of the integument of the leg, exhibited no contraction whatever.

It is clear, therefore, that belladonna acts, not as a direct, but as a reflex stimulant of non-striated muscle; and that, in the case of the iris, the media of conduction centripetally are the sentient filaments of the fifth pair distributed to the conjunctiva and surrounding integument.

Dr. Charles Lee proposes the administration of opium in poisoning by belladonna, and holds that these agents may be regarded as reciprocal antidotes—an opinion probably deduced from the opposite states of the pupil under their operation. We are here presented with a forcible illustration of the error of treating symptoms without reference to causes. Had Dr. Lee adverted to the fact that belladonna dilates the pupil by inducing a state of active contraction of its dilator muscle through the sympathetic, and that opium causes its contraction by stimulating its constrictor muscle through the third or *motor oculi* nerve, he would not have concluded that a myostic must of necessity be a corrective of a mydriastic, and proposed opium as an antidote for belladonna.

ART. III.—*Further Observations on Death by Hanging ; with an Account of the Execution of a Murderer, and the subsequent Examination of the Body.* By CHARLES CROKER KING, M.D., M.R.I.A., F.R.C.S.I.; Professor of Anatomy and Physiology, and Dean of the Medical Faculty, Queen's College, Galway.

ON Tuesday, the 11th of May, 1858, Patrick Lydon underwent the extreme penalty of the law, in front of the County Galway

* See Dublin Quarterly Journal of Medicine, Feb., 1855.

Gaol. He was executed for the murder of his wife. The particulars of his case are as follows:—

Previous to the Spring Assizes of 1856, Lydon, who occupied the position of a comfortable farmer, was committed to bridewell, charged with having violated the person of his servant, Margaret Conneely. Lydon constantly affirmed that he was innocent of the crime of which he was accused; he became nervous, and apprehensive as to the result of his trial, and in an evil hour he consented to become the husband of Margaret Conneely, and the fatal marriage, which has ended in the death of both parties, was solemnized.

On Lydon's discharge from custody he refused to live with his wife, and they separated. Margaret Conneely demanded that she should be taken home, and treated in every respect as his lawful wife; but Lydon's family regarded her with contempt, and constantly impressed upon Lydon the social position he would sacrifice if he attempted to introduce a person of her low birth and moral character within their family circle. On one side were the constant importunities of a wife he hated, demanding rights which the law, if appealed to, would accord her; on the other side, family influences, which (if he complied with his wife's demand) would be equivalent to a sentence on him of social banishment—for the relatives declared they would never consent to associate with this woman. Swayed by these two impulses, the unfortunate fellow was driven almost mad.

The importunities of his wife were unceasing; and at last, on the 17th of August, 1856, Lydon yielded, and consented to take her to his own home. His residence was some miles distant from that of his wife's; he called for her at night, and they left the house together. She was not heard of for some time, and it was supposed by her friends that she was living with her husband. Eventually, her body was discovered, buried in the sand, in a lonely part of the county, on the borders of Lough Mask. Suspicion naturally fell upon Lydon; he was the last person seen in her company, and they were then going in the direction of the place where her body was found. Lydon, on being questioned, did not give a satisfactory account of their last interview; he stated that, having quarrelled on the way, they parted company. He was arrested and thrown into gaol.

The evidence which could be obtained against Lydon was altogether of a circumstantial nature; no eye had witnessed the foul deed. The Crown prosecutors were of opinion that there was not

sufficient evidence to sustain a conviction, although they had no doubt of his guilt. Consequently, assizes after assizes were held, the trial being each time postponed in the expectation of some additional evidence being obtained; and, at last, having been nearly two years in gaol, he was put on his trial. After a patient consideration of the case, and a prolonged trial, Lydon was found guilty, and the 11th of May, 1858, named for his execution.

There was nothing repulsive in the expression of Lydon's countenance. His head did not exhibit any great mental development; nor did it, on the contrary, show any remarkable deficiency; his forehead was low, but this was not the result of deficient cranial development, but was caused by his hair growing down low, and encroaching on his forehead. A careful examination of the skull did not give any support whatever to the system of phrenology.

During this man's confinement he conducted himself with the greatest propriety; was docile, gentle, and obedient to orders. After his conviction he appeared to be most penitent; and on the drop acknowledged that he was guilty of the murder, but protested, in the most solemn manner that he was perfectly innocent of the crime with which he was originally charged. Having made this dying declaration, he submitted to his fate with a firmness worthy of a better cause.

Lydon was a small man, only 5 feet 5 inches in height; skin and complexion rather delicate; muscular system moderately developed. The diameter of the rope was 10 lines; his weight $9\frac{1}{2}$ stone; the space through which he fell 11 feet. The loop of the rope ran in an oblique direction from the side of the neck upwards towards the left ear, immediately below which the knot was placed. The fall was considerable; but, with the exception of the effect of the recoil of the rope, the body was motionless. Death seemed to be instantaneous; not the slightest motion of the body, or even quiver of the limbs, could be observed. Life having been pronounced to be extinct, the body was not left suspended for more than a few minutes.

The following examination was made immediately afterwards:—Face (with the exception of a very slight, scarcely perceptible, light violet hue) not congested; expression calm; eyes nearly closed, conjunctiva not suffused; mouth closed; tongue neither protruded nor congested; fingers gently flexed; general surface of body pale; no effusion of blood from nose, mouth, or ears; penis flaccid, no discharge of semen or urine; abrasion of the epidermis corresponding to the right half of the rope's track.

The further examination of the neck was conducted in the following manner:—Two incisions, parallel to each other, were made, one above, the other below, the track of the rope, and the included flap of skin was dissected up. The areolar tissue did not present a silvery appearance; but several ecchymosed spots were observed in the substance of the skin, in the subcutaneous areolar tissue, and in the substance of the superficial muscles. The left wing of the thyroid cartilage was driven in and fractured in a vertical direction. The thyro-hyoid muscle and membrane were ruptured, and the stalk of the epiglottis and the aryteno-epiglottidean folds of membrane completely torn across. The mucous membrane of the larynx was not congested. That portion of the anterior common ligament of the spine which passes from the body of the second to that of the third cervical vertebra, was ruptured, so that the left half of the bodies of the above-mentioned vertebræ were separated from each other by an interval of one-eighth of an inch; but there was no displacement, with the exception of in a slightly angular direction towards the right side, which the above separation permitted. Both membrana tympani were examined; they had not sustained any injury.

On the completion of the above examination the body was buried, so that an opportunity was not afforded of examining the brain or the contents of the thorax. The result of the examination of the body in the present case is interesting when contrasted with the one published by me in the thirty-fifth number of this Journal.

Both criminals were executed with the same rope, and there was not much difference in their weights; but the length of fall was decidedly greater in the present than in the former instance. Still, making every allowance for these circumstances, the results were remarkably different.*

In the case of the criminal Hurley, although the body fell with a tremendous jerk, there was a singular absence of those appearances generally regarded as necessary accompaniments of hanging during life, or even of those slight evidences enumerated by many authors as constant attendants upon death, the result of simple suspension. For example, the site of the rope was scarcely perceptible; there was not the slightest extravasation of blood either into or beneath the skin, or even the silvery appearance of the areolar tissue, or injury of any kind done to the muscles, blood vessels, nerves,

*The momentum acquired by a man of 9½ stone falling through 11 feet is to the momentum acquired by a man of 10½ stone falling through 7½ feet, nearly as 11 to 10.

bones, or ligaments. Whereas in the present case there was abrasion of the epidermis, rupture of muscles and ligaments, and fracture of the thyroid cartilage, and great violence done to the epiglottis and aryteno-epiglottidean folds.

In the second volume of *A Hand-Book of Forensic Medicine*, by Casper, translated by Dr. Balfour, for the New Sydenham Society, at page 161, we find the following observations:—"How often do we read, in purely theoretical authors, of the violet, bluish-red, swollen countenance of those strangled! Nothing, however, is so erroneous as to suppose that every one hanged has such an appearance. Haller, long ago, published descriptions of persons hanged, who had a pale and sunken countenance; and numerous later observations of a similar character have been made. My own experience, however, has taught me that by far the greatest number of persons strangled have neither a turgid nor a livid countenance, but one simply like that of *any other corpse*."

In corroboration of the above observations, I would recall attention to the appearances presented in the two cases detailed by me. In the former case, when the body was cut down, after having been suspended for 45 minutes, the face was pale. In the latter case the expression was calm, and the face not congested, with the exception of a very slight, scarcely perceptible, light violet hue. It is worthy of remark that in the case of the man Hurley, although immediately after the execution, the face was pale, and there was not any discolouration of the integuments of the neck, breast, or shoulders; yet, on the following day, 18 hours after death, the body, in the interval, having *lain on its back*, the face was livid, the lips and ears purple, and the integuments of the shoulders and of the upper and *front* of the chest of a bluish colour. These appearances are quite in corroboration of the case quoted by Esquirol.

Dr. Wilde, in his able *Treatise on Aural Surgery*, p. 326, mentions the case of a female who had strangled herself by twisting a ribbon round her neck, and in whom, on *post mortem* examination, Professor Geoghegan had discovered a rupture of the membrane of the tympanum. He concludes his comments on the case by observing that the only two cases on record, in which there had been a careful examination of the parts, is one mentioned by Littré, and the foregoing. It was, consequently, determined in this instance that the condition of both membranes should be examined. On a most careful examination, it was found that neither of the membranes had sustained the slightest injury.

In the case of Lydon there was not any erection of the penis, or any discharge from the urethra. Casper considers the source of the urethral discharge as the prostate gland; but in the case of Hurley the penis was semi-erect, and the urethral fluid, when submitted to microscopic examination, was found to contain numerous spermatozoa.

ART. IV.—*Remarks on the Hemostatic Treatment of Cholera, Hemorrhage, Exhaustion, &c.* By THOMAS A. WISE, M.D., F.R.C.P. & F.R.S. Ed.

WHEN the Spanish pilot smiled on the late Dr. Kelly, shivering under the influence of a cold fit of ague, and pointed out how easily it might be removed by the application of a garter to stop the blood of one or two of his limbs, he suggested a plan of treatment which has long appeared to me worthy of more attention than it has received. When in India I had, on one occasion, a regiment prostrated with fever unexpectedly placed under my charge; and, as I had but a small supply of quinine, and could not obtain more, I employed tourniquets to intercept the blood in the extremities, and with a degree of success that induced me to publish the result in *McClelland's Journal of Natural History, Calcutta*. I have not the journal by me; but the result was so favourable that I frequently employed it in the cure of intermittent fevers; and I afterwards extended the application of this powerful remedy to other diseases, and propose again to bring the subject under the notice of the profession.

The great discovery of Harvey determined the principle that we had, by means of the tourniquet, the complete command of the arterial circulation of a limb, and could, by means of a tight bandage, retard the return of a considerable quantity of blood from the extremity. Modern physiologists inform us that the quantity of blood in the whole body is about 28 lbs.; and that in ordinary health there is about two pounds weight in each of the four extremities. The numbers will, perhaps, be allowed to be nearly correct, although the absolute quantity will vary in different individuals, and in different parts and conditions of the body. For instance, a person during active exercise will have the distribution of the blood all over the body considerably different from an

individual in repose; and this difference will often be still greater in disease. The attack of an intermittent disease is accompanied with a congestion of blood in certain organs; and, as we have the complete control of at least a pound of blood in each limb—may we not act on this with great advantage in the cure of disease?

The circulation may be controlled in two ways—1st, by retarding the blood in veins, and, 2nd, by stopping the circulation in arteries

To retard blood in the veins of a limb as a therapeutical agent.—In patients with the premonitory symptoms of apoplexy, in severe cases of dyspnea, in some organic diseases, and even in inflammation of particular organs, the temporary withdrawal of a certain quantity of blood from the general system, and its retention in the extremities may sometimes be used with great advantage. It is easily accomplished, by the application of a field tourniquet upon one or more extremities.

Stopping the arterial circulation in a limb.—It must not be supposed that a clamp or horse-shoe tourniquet, when compressing the chief artery of a limb, acts merely on the part, by stopping the circulation—it powerfully affects the whole system. If applied to the femoral artery, probably a pound, of the two pounds of blood intended for the limb, is prevented passing into it, and makes its way back to the heart, causing a more rapid and forcible circulation over the diminished circle.

Secondly. As many diseases are local, and are connected more or less with morbid congestions of blood, which generally produce the pain and the derangement of the functions of the affected organs, by so closing a portion of the circle you thus enlarge the volume of blood, and increase the force of the heart, which has a most powerful influence in removing local congestions in the internal organs.

It is not, however, in every case that the treatment can be employed with the same good effect. It is in the large class of functional diseases that the partial stoppage of the circulation is of so much permanent use; and even in some organic diseases it may be employed with advantage by withdrawing so much blood from the circulating system of the part. By thus placing a ligature so as to press upon the chief artery of one or two extremities, the general mass of blood circulates through a smaller circle, and in some diseases produces a powerful tonic or stimulating effect upon the general system.

In those sudden and appalling cases of uterine hemorrhage the effect

is very marked; and the fatal result is often arrested by this prompt and energetic interference. In such cases the patient is often left in a collapsed pulseless state, without the quantity of blood necessary for carrying on the vital functions, for which the strongest stimulants are used in vain; and in a large proportion of these cases, after a faint return of animation, the patient sinks into a state of collapse, and dies from exhaustion, without any further loss of blood. In such a case, the simple means of contracting the extent of the circulation, by closing one or more of the arterial trunks, will be of great advantage: Mr. Wardrop states that the effort of raising a patient, in such a case, and accidentally closing the humeral arteries, was found sufficient for nature to rally. This will be more effectually done by raising the limb, pressing the venous blood onwards, and applying a clamp-tourniquet to the humeral and femoral arteries, by which upwards of a pound of blood, sent to each limb, is stopped, and finds its way back to the heart. This diminished vascular circle, and increase of blood, stimulates the heart's action, and the greater volume of blood has a powerful influence in strengthening the weakened system.

In the collapsed stage of cholera, when, in many cases, the physician first sees his patient, the system is so much prostrated that the most powerful medicines have no effect, the application of the tourniquet affords the only chance of cure. This most powerful remedy immediately removes the painful cramps, and produces the same equalizing effect as blood-letting, without the debility caused by this evacuation. It likewise increases the volume of blood, which stimulates the heart to increased action, removes morbid congestions, and, changing the morbid distribution of blood from the secreting surface of the alimentary canal, sets up a new and salutary action in their place. It thus affords the most ready and most powerful means of rousing the system. By this means the purging and vomiting are stopped, the pulse becomes stronger, the heat and strength of the system are quickly restored, and time is allowed for medicines to act.

The tourniquet may be applied to two or to the four extremities, according to the effect intended to be produced. When the individual is weak, and the state of collapse great, more care is required in emptying, by friction, the blood in the veins of the extremity to be bandaged; and the effect will be more marked if the tourniquet be applied to four extremities. It may be kept on for hours, or even for a day or two. In one case I kept the tourniquets applied for

three days—as the exhaustion was very great—with the best effects; only relaxing one or more, as it appeared necessary. When reaction has taken place, by relaxing cautiously one or more of the tourniquets, so as to allow the blood to flow to the extremities, it afforded a ready means of relief. In a pretty extensive experience I have not seen any bad effects produced by the application of tourniquets. The effect, however, varies according to the stage and severity of the disease. When the patient is stronger, or when reaction has taken place, the pressure of the tourniquets is complained of—and much care is required to prevent the patient loosening them. If it be done too abruptly the blood spreads over the extremities, and the patient rapidly sinks, as occurred in the following cases:—

CASE I.—A young lady joined her parents in India; and, on a damp evening, walked along the moist bank of the river, which had been covered with water during the rains. She wore a light dress, and thin shoes, which she did not change at dinner, and went early to bed. During the night symptoms of cholera appeared, and I was sent for. The frequent and peculiar discharges, the state of the pulse, and the cramps, proved the severity of the attack. I immediately acted in the usual energetic manner, but without much effect; and in the morning I requested the assistance of an old and able physician. On learning the history, and the result of the treatment that had been employed, and as she appeared sinking, he considered there was no hope. I proposed the application of tourniquets, which he warmly recommended. They were applied to an arm and a thigh; and the result was soon most marked and gratifying. The cramps ceased, the cold and clammy skin became warm, the pulse resumed its action, and the pale sunken face became animated with a flush. I then slowly relaxed one of the tourniquets; and, having other urgent calls, I left the patient under the charge of my friend, with strict injunctions not to touch the tourniquets until my return, and pointed out the danger of such a proceeding. He understood, and carefully observed, my instructions; but, as the young lady dozed, he left the room, and did not return for some time, when he found all the unfavourable symptoms returned; and then it was he learned the young lady herself had persuaded her sister to unscrew the tourniquets; the blood that was animating the body flowed again to the extremities—the heart, weakened by the loss, ceased to act with the same energy—and all the fatal symptoms returned, and she died that night.

In those cases, when the disease is severe, the tourniquets should be kept on until reaction begins, when one extremity is to be set free at a time, and again, if necessary, *tightened*, to prevent the relapse—which is always most dangerous, as witnessed in the following case:—

CASE II.—Gunga Sing was brought, at noon, to the hospital, in the collapsed stage of cholera. There was great anxiety, no pulse at the wrist, and great thirst, with vomiting and purging. The tourniquets were applied, and continued all next day and night; only at times loosened, and they were removed for some hours the following morning. The body was then much warmer; but the eyes continued sunk and inanimate, and filled with mucus. The patient was anxious and restless, the pulse continued small and weak, and the temperature of the body was 100. He complained of the tourniquets; and at last removed them. 25th. Still anxious and restless, with 24 respirations in a minute. In other respects better. His appearance much improved; eyes more animated and clear; and he ate some arrow-root with appetite. He will not allow the tourniquets to be applied; they seem to irritate him. The circulation being then left free, the warmth of the body diminished, the pulse became imperceptible, and collapse and death followed. The usual remedies had no perceptible effect on this patient.

These cases illustrate the danger of leaving off the tourniquets, or slackening them too soon. It requires much care and attention to do this properly. The rule being to relieve any symptom of congestion by relaxing the ligature for a time, according to the state of the patient.

The following are cases in which tourniquets were used, and in which medicines, in all probability, would have been given in vain:—

CASE III.—Shakh Hoosen admitted into hospital, under the care of Dr. Eastall, with the usual symptoms of cholera. The pulse was imperceptible at the wrist—body covered with cold perspiration—no secretion of urine—and the evacuations from the bowels were passed involuntarily. Four grains of calomel, and four of quinine, with a grain of opium, were given, and washed down with brandy and spiced warm water. As the unfavourable symptoms continued,

four tourniquets were applied to the four arterial trunks of the extremities, and at the same time a draught of the *drogue amere*, laudanum, and peppermint water was administered. In the evening he was found without pain, the action of the heart stronger, and the body warmer. He complained of the tourniquets, and loosened them himself during the night. In the morning they were again tightened. All the bad symptoms had disappeared, he was warm, his voice was stronger, and he felt better. The improvement continued during the day, and two of the tourniquets were removed at night. He continued to improve, and he soon left hospital quite well.

The following cases were reported by one of my intelligent assistants:—

CASE IV.—Hurrooman, aged 25, was brought to the city hospital, in consequence of several liquid evacuations, which had reduced him very much. He had no pulse at the wrist, and complained of severe cramps in the muscles of the legs. A cholera pill, composed of black pepper, assafetida, and opium, was given, suspended in mucilage, with salt; and an infusion of ginger for drink; with hot bricks to his feet, and turpentine and oil rubbed over his body. The application of the tourniquets immediately stopped the cramps, and soon improved the pulse. He continued restless, with occasional severe pain in the abdomen, which went off. The heat of the body was improved, the cramps did not return, and he left the hospital quite well three days after admission.

CASE V.—Noor Mahammud was brought to the hospital labouring under a severe attack of cholera. He had incessant purging and vomiting, with no pulse at the wrist, and the skin cold. The tourniquets were immediately applied to a leg and an arm, a sinapism to the abdomen, and the cholera medicines administered. The purging and vomiting ceased, the heat of the body improved, and he slept comfortably. Next day he felt well, and continued to get stronger: on the fourth day he was discharged cured.

CASE VI.—Ducas Sing, aged 30, was admitted, yesterday afternoon, into the city hospital, in the collapsed stage of cholera. He had vomited, and his evacuations were liquid; his body was cold;

pulse small, weak, and rapid—probably from the exertion of being brought to the hospital—for it soon became imperceptible, and his eyes were sunken and lifeless. Narcotics, and the usual stimulants were employed without effect, and he continued to complain of thirst. Two tourniquets were applied—one to an arm and the other to the opposite leg—which had soon the effect of improving the pulse, and the warmth of the body. He loosened the tourniquets several times, as they felt uneasy; and he fancied his uneasiness might proceed from the tight bandage, and removed them altogether during the night. In the morning he felt quite cold, eyes sunken, and pulse imperceptible at the wrist. The temperature of the air was then 86°, and that of the axilla 96°, when the tourniquets were applied; and in a short time the pulse became full, soft, and 112 in a minute, and the temperature of the surface somewhat increased—being in the axilla 97°. He feels better, and is inclined to eat.

30th.—After the exhibition of a pill containing 10 grains of calomel and one of opium, he had three pale motions, secretion of urine free, and of a good colour. Sleeps well, pulse full, skin still cold. Next day, in consequence of a determination to the head, three leeches were applied to the temples with advantage, and the patient felt well, and wished to go home, but was induced to remain two days longer in hospital.

CASE VII.—Sadec Misterie, aged 30, was admitted into the hospital on the 23rd of October, in the collapsed stage of cholera. Has passed rice-water stools, and has had frequent vomiting; pulse imperceptible. Tourniquets were applied to the two arms and legs, and only loosened occasionally, as required. The pulse soon improved, and next day was 84, small and weak; trunk warm, and temperature 98°. 25th. Body cool; pulse still small, weak, and 88°; still purged. The tourniquets had been removed for two hours before I visited the hospital. On their being again applied the pulse soon became more full and regular, and the warmth of the body increased to 99°. The usual cholera medicines were exhibited.

26th. Improved in every respect. The tourniquets to be continued. 27th. Nearly well; sleeps well; and the temperature of the body is natural; secretes urine; dejections of a good colour. 30th. The tourniquets to be left off by degrees. He left the hospital quite well on the 3rd of November.

CASE VIII.—A gentleman of the civil service, who had been
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many years in India, had latterly become indolent, had left off early rising, and had got very stout. He had been "out of sorts" for a week, but not sufficiently so to require assistance. On Sunday he partook of some ham, and ate two hard-boiled eggs. He felt the food had not agreed with him; but went to church in the evening; and at night slept under a punkah, with the bed-room window open, an unusual occurrence. There was a strong, cold, and easterly wind blowing over a garden which had been raised from the river, but was not entirely filled up; and, as the water of the river retired, it left this garden a marsh covered with rank vegetation—a very hot-bed of malaria, particularly when the cold, damp, easterly wind passed over it, and upon a person asleep. At 3 a.m. he awoke, and had a large rice-water stool, from which he felt faint. He had several more of the same nature in the course of the morning and forenoon, without any bile or feculent smell. He became sick, and the cramps were frequent and very severe, in both legs during the day. Frictions of hot turpentine and oil had little effect, but the cramps were immediately removed by the application of the tourniquets. They were slackened; and when the cramps returned, a turn or two removed them. "A little more," he said, "that will do; the pain is gone." This was not repeated once, but frequently; for the pressure was repeated as often as required, and always dissipated the agonizing cramps, the most distressing symptom of this most painful disease. In this patient the pulse kept very weak, but still sensible at the wrist; and I did not require to stop the circulation so much to produce reaction as to stop the painful cramps. Repeated large mustard poultices were applied to the abdomen, and scruple doses of calomel and large doses of laudanum, produced little or no effect. The weakness increased towards evening, when the ends of the fingers became cold and blue. A quart of salt water, with a drachm and a half of laudanum, was thrown up the rectum, and appeared to be of use. Half an hour afterwards it was returned little changed. He felt more comfortable; had snatches of sleep towards morning; and, as his bowels had not been affected for 16 hours, 10 grains of the extract of colocynth and five of calomel, were given, and brought away a liquid bilious stool; followed by the secretion of urine. On the 14th of July he complained of pain in his head, which was removed by the application of a few leeches. He continued from this time to improve, though slowly, in consequence of a weakened constitution and the unhealthiness of the season.

The following conclusions may be deduced as to the use of the tourniquet in the collapsed stage of cholera, in exhaustion, &c.:—

1st. By its obstructing the circulation it immediately stops the distressing cramps of the extremities in cholera.

2nd. By increasing the quantity of the circulating fluid in the trunk, and thereby stimulating the heart's action, it removes morbid congestions, stops the secretions from the bowels, increases the animal heat, and powerfully tends to restore health.

3rd. By improving the vigour of the system, medicines act more powerfully, and in a more salutary manner in removing morbid actions.

4th. When the reaction has taken place by loosening the tourniquets with care, the determination of blood to the internal parts is diminished by its diffusion over the extremities, upon which the tourniquet had been placed. They are immediately to be re-tightened when there is any coldness or weakness experienced or any tendency to relapse. This must be most carefully watched for, and prevented.

5th. By increasing the volume of blood in the contracted circulation, the force of the heart is increased, local congestions are removed, and the whole system is strengthened.

ART. V.—*On the Mechanical Restoration of the Apparatus of Vision.* By DR. DEBOUT, Paris, Editor of *The Bulletin Général de Thérapeutique Médicale et Chirurgicale.*

[THERE is no branch of surgery which has made more remarkable progress since the beginning of this century than that which seeks to remedy the deformities of the human body. Whilst surgeons seek, by bold and ingenious operative proceedings, to extend the limits of autoplasty, instrument-makers in their own department compete with them in their efforts, and do not fear to compare the results obtained by the mechanical with those furnished by organic prothesis. Nothing can be more interesting than to study the real resources which this contest has produced. Dr. Debout has undertaken this task, and has furnished us recently, in the paper, published in our thirty-third volume, on "the Mechanical Remedies for Cleft Palate," with a description of the excellence arrived at by mechanical artists in remedying this deformity. He

still pursues his work with the most laudable zeal, and purposes soon, we understand, to publish a work on Restorative Surgery.

The article which we now publish is a new chapter of his studies; and a portion of it has already appeared in the journal of which Dr. Debout is himself the editor. The author dwells only on the facts that have come under his own observation, and he asks us to produce this second fragment of his work in order to make an appeal to the surgeons of our country. "If," he says, "the French manufacturers have almost a monopoly of the construction of mechanical apparatus, there are also, in other countries, ingenious artists who have contributed effectively to the progress of prothesis; and surgeons who have witnessed their efforts should come forward to give us an account of their results;" and our colleague will gladly avail himself of any observations which will enable him to complete his work.—ED.]

OF the senses having their seat in the face, there is not one whose deformities require more imperatively the intervention of restorative surgery than the apparatus of vision. The integrity of the accessory parts of these organs is of the utmost importance: thus, the eyelids in no way contribute to the functions of sight, yet their destruction soon entails the loss of the ocular globe.* The study of the lesions of this apparatus furnishes us with many examples of the application of prothesis, either devoted exclusively to the improvement of vision, as spectacles, or, to the restoration of a destroyed organ, as in the use of artificial eyes. In fact, there are none of the malformations of the eye—not even those which do not interfere with vision, such as the hypertrophy of the covering of the inner angle, to which the name of epicanthus has been given—which do not demand the intervention of art.

This simple enumeration, incomplete as it is, suffices to show the extent and variety of aid required; but, at present, we shall limit our observations to the lesions which require the aid of mechanical apparatus. It is the artificial eye, with the services it is capable of rendering, that shall be particularly considered in this article.

* The ancients were well aware of this fact. Thus, the Carthaginians, in their resentment towards Regulus, believed they could not make him submit to a more horrible punishment than the removal of his eyelids. The history of the Crusades also shows us the cruel spectacle of Christians from whom their conquerors removed their eyelids, and who lost, consequently, not only their sight, but their eyes themselves.

ARTIFICIAL RESTORATION OF THE GLOBE OF THE EYE.

Although shaded by the arch of the eyebrows, and veiled by the eyelids, the eyes shine with so much light, and shed around such brilliancy by their transparency, by the contrast of their colour, and by their mobility, that they predominate over all the other parts of the face. Thus, the loss of one of the eyes creates such a deformity that the necessity for hiding such a mutilation was soon felt. The experiments of this prothesis may be traced back to the most remote antiquity; but, nevertheless, it is only since the beginning of this century that artists who devote themselves to the manufacture of artificial eyes have succeeded in making pieces so perfect that, when they are introduced under the eyelids, the illusion is complete. In the employment of apparatus destined solely to restore the form of the lost organ, mediocrity in the result cannot be tolerated. Here it is all or nothing; for if we cannot succeed in completely hiding the deformity, we aggravate and augment it.

We have elsewhere dwelt on the reality of the resources offered by ocular prothesis in the following terms (*Bulletin de Thérapeutique*, Tom. LXI., page 476):—"In an application of prothesis we are too much disposed to see only the object destined to conceal a deformity; from thence, doubtless, proceeds the small amount of attention which we pay to the real resources of this branch of surgery. It seems, even, as if we feared to compromise our dignity in devoting ourselves to its study; therefore we abandon it completely to those unfortunate mutilated ones who are obliged to have recourse to it."

How few are the surgeons who, in witnessing a purulent melting of the eye in a subject still young, can offer to him, as a source of consolation, the benefit of ocular prothesis; these hopes, nevertheless, would be all the better received if the patient belonged to those interesting classes of society in which each individual must provide for the wants of his existence by the exercise of a profession. Now, in our state of civilization, individuals who present any deformity offensive to the eye are debarred from many employments, even the humblest. How many persons would object, solely because she had lost an eye, to take into their service a servant? Look at that young soldier: a brilliant action has entitled him to be promoted with honour; but he has lost an eye in the fight—without the benefit of prothesis how could he pursue a career so well begun?

We ourselves, are we not each day, in our practice, exposed to a like danger? When opening a bubo may not a drop of pus be projected into one of our eyes, and there develop that formidable purulent ophthalmia which so rapidly destroys all eyes which it affects? May not a sharp instrument, during the course of an operation, escape from the hands, and strike us in the eye? We are all acquainted with hospital surgeons who, from these causes, have lost an eye; but, thanks to the resources of prothesis, their patients, and even the greater number of the pupils who, each day, follow their visits, are ignorant of the accident. How many of our readers, who have paid a visit to our regretted predecessor, have perceived that he also wore an artificial eye? To these too real motives for sympathy, which alone should cause us not to condemn the study of ocular prothesis, are joined others not less plausible, but which touch us more directly, inasmuch as they bring us back to our daily course—that of treating disease. As soon as the globe of the eye is atrophied the eyelids are deprived of their support; they can no longer move themselves, therefore remain almost always closed. The lachrymal and Meibomian glands, not being altered, continue to secrete, so that the liquids, which they unceasingly furnish, collect in the orbital cavity, and produce inflammation. This soon causes inversion of the eyelids, of which the lashes sweep the ocular stump, often producing obstinate headache. The best means of treating these accidents, both general and local, is by resorting to prothesis. As soon as an artificial shell is introduced between the eyelids these membranous veils recover their freedom of motion; the circulation is restored to its normal state, and reacts on the secreting surface of the conjunctiva, and also on the ocular stump. One of the greatest benefits of prothesis (of which we shall furnish, further on, a remarkable example) is in a case where, notwithstanding the destruction of the cornea, the sight is not completely lost—when the patient can distinguish light from darkness, and where the brilliancy of a strong light, making an impression on the retina, reacts on the sight of the healthy organ. An artificial shell applied to the diseased eye in this case serves as a screen, and prevents further inconvenience to the healthy eye. The same phenomenon is observed in certain cases of monocular cataract, and causes great annoyance in the use of the healthy eye, from whence arises deplorable errors in the practice of ophthalmology.

But, in order to produce these good effects, it was necessary that

the industry of the artist should at length have succeeded in giving us enamel shells as perfect as those in use at present. Yet, for many centuries, the unceasing attempts of art have only borne witness to the strength of that instinct which induces man to hide his deformities.

The history of artificial eyes brings us back to an epoch long anterior to the Christian era. In proof of this we have the painted pieces which are seen placed between the eyelids of a great number of Egyptian mummies. In our museums of antiquities are also to be seen some statues with silver, and others with gold enamelled eyes. In spite of its antiquity, the art of making artificial eyes has made but slow progress, since we still find that in the sixteenth century prothesis was only applied to maintaining, in front of the closed eyelids, a metallic plate on which was painted an eye surrounded by its membranous veils. These plates were fastened on by a string which surrounded the head. This description of eye seems to have disappeared very slowly, as one of our contemporary authors, Rognetta, mentions having seen an invalid who still wore one of these eyes (*ecblepharos*). "I admit," adds he, "that I prefer a hundred times a simple black bandage to such a clumsy placard." The figure represented in the work of Ambrose Paré appears to offer us an example of this (*ecblepharos*).

One sees, in the same chapter of this author, the representation of a plate made of enamelled gold, of the colour of the natural eye, intended to be placed under the eyelids (*hypoblepharos*); but whatever might be the skill of the painter, his pencil could not depict the fulness or curve of the cornea. Add to this that these plates must be immovable, on account of their having no connexion with the subjacent ocular stump, and we may rest assured that these eyes were in themselves deformities.

If one reflects, besides, on the representation which is given us of these pieces, we may well be doubtful of their utility. The acuteness of the internal angle of the artificial eye cannot fail to wound the *caruncula lachrymalis*, and the similar disposition of the external angle must interfere with the maintenance of the piece in the orbital cavity, and allow it to slip from between the eyelids.

Later on they attempted to give these metallic plates the form of a shell, better adapted to the configuration of the cavity destined to receive it; but all these experiments, however ingenious they may have been, failed to produce any practical result. The gold plate, prepared to receive the layer of enamel, always gave these artificial

eyes a considerable weight, so that these pieces soon caused inflammation of the tissues on which they rested.

At length, the first trial in making enamel eyes took place; but, for a long time these were only used for ornamenting the heads of dolls and marionnettes—afterwards, for animals intended for natural history collections.

The development of the manufacture of artificial eyes at last produced pure enamel shells, extremely light, and to which were given the exact form of the human eye—that is to say, they had a projecting cornea. This was a real and considerable progress which should enable prosthesis henceforth to answer to the requirements of practice, the rest being necessarily the result of experience—the work of time.

And now, the makers of artificial eyes have succeeded in imitating the transparent cornea, the anterior chamber, the radiating form of the iris, the pupil, the sclerotic, and the vessels of the conjunctiva, with such a degree of perfection that it is often difficult, not to say impossible, to distinguish the fictitious eye from the natural one.

If we add, that with these improvements, the clever artists who devote themselves to this speciality, contrive, by ingenious sections at the edges of the shells, to adapt them to all the irregularities of the surface of the lost eye, so as to take advantage of the mobility of the stump in order to establish complete harmony between both eyes, we can imagine to what a degree of perfection the art may attain.

I have frequently witnessed the following occurrence:—When a patient, wearing an artificial eye, presents himself at the clinique of M. Sichell, this clever ophthalmologist requests one of the pupils who attends his class to make a diagnosis of the affection from which he suffers. After an attentive and minute examination of the eyes, the young student reports an immobility of the pupil of one eye, and, sometimes, a more or less increased density of the globe—never have I seen the existence of a prothetic piece recognized—and great, invariably, has been his surprise on being told that the eye, on the disease of which he had been discoursing, was an enamel one.

The various figures which we publish explain, by the numerous and diversified forms of the edges of the shells (see Fig. 6, 7, 8, and 9), how the application of an artificial eye no longer requires a previous operation; and the use of enamels, which resist for a greater length of time the dissolving action of the humours of the

orbital cavity, each day lessens the great misfortune of losing an eye.

Thus, in the treatise of Hazard Mirault, published in 1818, we see that this artist recommended the artificial piece to be changed, every six months at least, whilst M. Boissonneau, in the paper which he read at the Ophthalmological Congress of Brussels, mentions a period of double that duration:—"The polish of the artificial shell lasts," he says, "for more than a year; and at the end of that time they have merely lost their brilliancy, without ever becoming uneven on the surface."

THE ADAPTATION OF ARTIFICIAL EYES.

Success in the adaptation of an artificial eye depends on the exactitude of the relations which are established between the artificial piece and the oculo-palpebral cavity which is to contain it; and the anatomical conditions vary with the cause which has produced the loss of the organ, thus:—

1st. The disease may have destroyed the function without altering, so to speak, the form of the organ; the ocular globe may be merely a little atrophied, as at the end of purulent and variolous ophthalmias, &c.

2nd. A staphyloma of the transparent cornea, or of the sclerotic, may have developed itself at the end of the ophthalmia.

3rd. Wounds, in destroying the ocular globe, may have injured the eyelids and produced adhesions, by cicatricial bands, between these organs. When any loss of the substance of one of the eyelids exists the complication is still more grave.

4th. As a consequence of the extirpation of the eye, two conditions may present themselves—either the organic lesion may have been still intraocular, and the surgeon has been able to put in practice the proceeding of Bonnet, and enucleate the globe—or else the disease may have extended beyond the limits of the eye and invaded the surrounding tissues, rendering it necessary to remove all the contents of the orbit.

In the first of these cases the preserved muscles impress on the stump movements sufficiently extensive to enable the patient to wear an artificial eye with advantage. It is not so in the latter case, when, the muscles having been removed, the aid of prosthesis must limit itself, even under the most favourable circumstances, to the employment of an artificial piece, which will generally remain motionless.

LOSS OF THE EYE IN CONSEQUENCE OF OPHTHALMIA.

These cases are the most frequent, and are those in which prothesis furnishes the best results; we ought, therefore, to give them especial attention, and so much the more, as our classical authors, even the most authentic, are full of errors on this point.

Thus, Boyer, in the first few lines of his treatise, which he devotes to artificial eyes, says:—"The globe of the eye must be diminished at least one-third in order to have an enamel piece adapted to it." Most subsequent authors have repeated this instruction; from thence proceed those operations which aim at reducing the volume of the eyes before bringing the patients to artists who apply the artificial pieces.

Prothesis does not require these preliminary operations; on the contrary, the less the globe of the eye is diminished in volume the less the eyelids droop, and the more the region of the eye preserves its normal projection; therefore, in these cases, the face is scarcely deformed, even prior to the application of the artificial eye.

The support which the piece receives from the voluminous stump allows of its being made equal in size to the healthy eye; the eyelids cover it easily, and arrange themselves in regular folds, and the harmony of the aspect is complete. It is, therefore, most important to preserve, as much as possible, the volume of the lost eye (as far as the nature of the disease or the operation renders it practicable).

The prothetic piece finds on the voluminous globe of the eye, a part of its support, which it derives, on the contrary, entirely from the conjunctiva, when the globe is much atrophied; the pressure which the eyelids exercise on the artificial piece is then supported by a greater extent of surface; and, therefore, there is less cause for fatigue. So that we seldom see in these favourable cases those granulations supervene which too often appear in the cavity when the globe is much atrophied, and always when the patients neglect to renew their shell in good time; these morbid productions diminish the extent of the oculo-palpebral cavity, and injure the appearance of the restoration as well as the mobility of the piece.

Those patients who have the ocular stump large and voluminous will always be able to wear their shell for a greater length of time in good condition than those who possess little or no stump. We know many persons—amongst others, two of our medical brethren—who, abusing the advantages they derive from having a voluminous globe, have worn the same shell for many years—one of them not being even taken out for more than a year.

In one of the patients of M. Boissonneau, junior—a most negligent man (his fortune forbidding all idea of economy), who had worn for two years and a half a shell already a little worn—this oculist remarked that the granulations, although very small, had almost the consistency of horn. When this accident happens the upper eyelid no longer folds so well, and falls more than the healthy one.

Thus we see, when the globe of the eye remains large, not only is it more easily used, but it remains a much longer time in these conditions than when the eye has been atrophied; which, however, does not prevent persons who take the necessary precautions (and they are very simple) from wearing for an indefinite time, in very good condition, a shell which has no other support than the sinus of the conjunctiva. We are convinced of this from observing it in a great number of old people—amongst others a M. F., a patient of M. Boissonneau, whose left eye was diminished at least three-fourths. The cavity did not show the slightest trace of vegetation, although he assured us that he had worn artificial eyes from the age of nineteen, and he is eighty-three at present. From the appearance of the shells we would have thought it desirable to have had them somewhat smaller.

The artificial eye receiving at the same time its movements from the stump, and from the conjunctival sinus displaced by the globe of the eye, we can understand that the more voluminous the globe the more extended will be the motions which it will impress on the artificial shell in this respect.

The advantage which the volume of the stump presents is not less evident. The only inconvenience of these large globes (if it is one, which we do not think) is to necessitate the use of artificial shells perfectly fitted. It is indispensable that the stump of the eye should not be compressed by the enamel shell; and this ought to be constructed so as to preserve a regular position in the very extended movements which the bulb conveys to it. Thus we see the difficulties are confined to the artists; and as the patients derive benefit from this, we need not hesitate with respect to these voluminous stumps, whatever some specialists may say on the subject.

It cannot be too often repeated, that a piece, well adapted, produces the most beautiful results; but in order that the patient may profit by it we must not too long delay its introduction. In this way may be prevented the sinking of the eyelids—the movements of which exercise so great an influence on the expression of

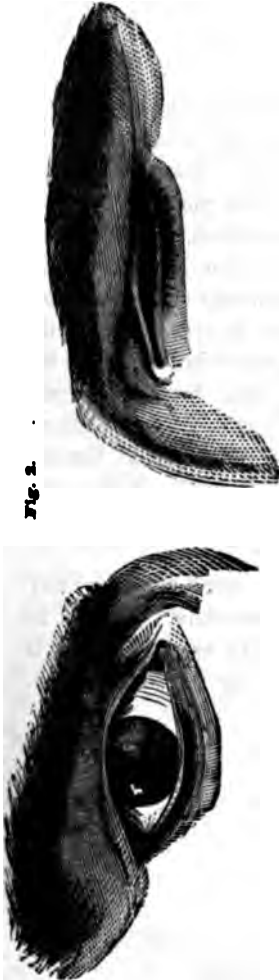
the face. M. Boissonneau, junior, in his notice on "Artificial Eyes," has given drawings of the principal modifications which the oculo-palpebral region undergoes after atrophy of the eye due to ophthalmia. We have borrowed these illustrations from them as they are most interesting, and serve to prove the advantage of the early use of artificial pieces.



Fig. 1.



The first figure represents both eyes of a woman thirty years of age; the right eye, which has been lost, is in the favourable condition for the adaptation of an artificial eye. The globe of the eye is diminished about a fifth of its natural size; it has preserved its spherical form; the transparent cornea is completely disorganized; and occupies the place which it occupies in the cicatrix, generally of a greyish color, which is more or less extended according to circumstances. This case may result from the ablation of a staphyloma—part of the cornea and the iris being taken away. In this case the artificial piece finds a solid support on the stump of the eye, as well as a useful source of motion. All consciousness of sensibility is destroyed, and the deformity of the face is no longer to be feared.



The second figure gives the exact representation of the region of the eye in a subject twenty years of age, who lost the left eye in his infancy, at the age of six months, after purulent ophthalmia. The atrophy of the globe was complete; the eyelids, after being depressed, had contracted, for want of the support of the globe; they remained immovable, and their development was arrested. The bones which constitute the orbital cavity have gradually approached each other; the frontal is considerably lowered; whilst the malar is on a higher level than at the side of the healthy eye. The healthy eye has also shared the deformity, as the obliquity of the inner side of the eyebrow indicates.

If, in a case like this, we examine the features of the patient, we will perceive that the whole side of the atrophied eye is shrunk and wasted, whilst the side of the healthy eye presents the rounded curves of a normal development. In this case ocular prothesis can but imperfectly remedy the deformity. The artificial eye will be smaller than the healthy one, and its mobility scarcely perceptible.

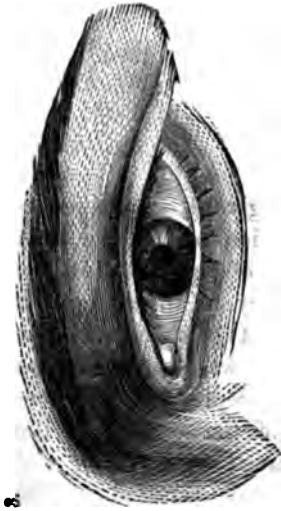
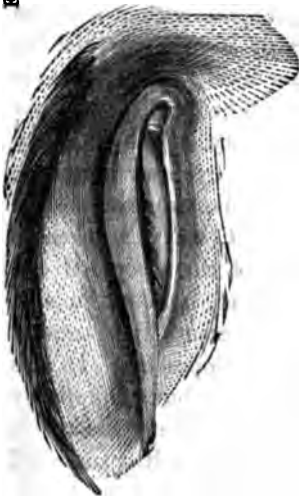


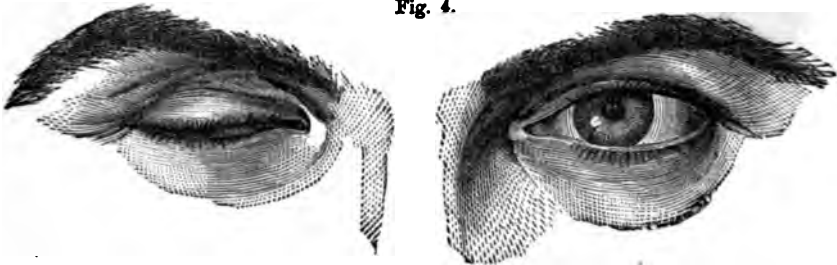
Fig. 3.



The third figure represents the eyes of a young girl of 18. The left eye is healthy, and of large dimensions; the right eye is lost. The globe, which was affected by a staphyloma, underwent an ablation of its anterior quarter. The work of cicatrization was complete about a month after the operation, and the globe preserves but a third, or about the half, of its normal size. Its anterior part presents a smooth surface, the eyelids are sunk down on the ocular stump, but the short time which has elapsed since the operation has not permitted of the tissues contracting.

The size of the artificial eye may equal that of the healthy one, but its movements will not be as extended as in the case represented by Fig. 1.

Fig. 4.



The fourth figure represents the eyes of a man of 40 years of age. The left eye is healthy; the right eye, which is lost, has undergone no operation. It became atrophied after the disease with which he was affected. It is reduced to half its size, and has preserved a spheroidal form, so that its anterior part is rounded. The diminution of the globe commenced some months back; therefore the eyelids are sunk on the stump, and their tissues are already contracted. The palpebral opening has lost about a fifth of its extent.

The use of the artificial eye may dilate the eyelids, and enable them to regain all the amplitude which they have lost.

In this case the size of the artificial eye will be but very little smaller than the healthy one, and its mobility satisfactory.

THE ARTIFICIAL EYE CONSIDERED AS A SCREEN.

It often happens, in cases of external ophthalmia, that the whole cornea is not completely disorganized, but that it still admits some luminous rays to penetrate the interior of the eye. The retina not being affected, the patient receives an imperfect impression of light; and clinical observation has shown that this imperfect sensorial impression reacts injuriously on the vision of the other eye. The aberration of vision at last increases to such an extent that the patient has to seek medical advice. The morbid phenomena are generally unknown; and treatment is useless, if not dangerous. We allude to that intemperate surgery which does not hesitate to extirpate the affected eye; just as if it should prescribe the removal of a finger because of a thorn in it, in order that the disease may be cured in a more certain manner.

The most simple and efficacious method of preventing these affections, and of removing them when they exist, is the use of the artificial eye. The enamelled shell then acts as a screen, which prevents the entrance of light, and at the same time conceals the deformity.

Prothesis in such cases is a work of considerable delicacy. The tolerance of the artificial shell depends upon the degree of the disorganization of the cornea. This part is, in fact, the seat of the extreme sensibility of the organ to contact with foreign bodies. When the cornea is not completely disorganized the application of an artificial eye is only possible when the posterior aspect of the shell is hollowed out in such a manner as not to touch the portion of cornea which still remains sensitive. A clever artist may always

succeed in overcoming this difficulty, which is sometimes considerable, as we should bear in mind.

After the shell has been worn for some time, the patient does not hesitate to say to you:—"I know not to what, to attribute the improvement in my sight; but, unquestionably, I see better since I have worn my artificial eye."

The following is an example:—

Loss of the Right Eye ; Partial Atrophy of the Globe ; Staphyloma of Iris and Cornea ; the Sensorial Impressions of this Organ Disturbing the Function of the Healthy Eye ; Adaptation of an Artificial Eye ; Rapid Improvement in the Sight.

Maria G., aged 19, admitted in May, 1862, into the Clinical Hospital, for a staphyloma of the iris and cornea. The loss of the eye was of two months' standing, the cause being a violent internal ophthalmia. Although the sight was completely destroyed, and the patient could not distinguish any object, she still received a qualitative impression, and could discern at which side of the apartment the light entered. This slight sensorial impression was sufficient to affect the vision of the healthy eye. The patient, however, had no knowledge of it, as she had not as yet returned to her work. She had presented herself at the hospital to have the tumour removed, which, she had been told, was indispensable before an artificial eye could be adapted. M. Nélaton, not having undertaken anything of this kind, sent for M. Boissonneau, junior, to ascertain from him if an artificial shell could be introduced without resecting the staphyloma of the cornea; and upon his giving an affirmative answer, the young girl was sent to him.

The work of prothesis was very delicate. The globe of the eye was partially atrophied; and, further, the cornea was completely disorganized, forming a staphyloma, on the surface of which were three points, not so solidly cicatrized as the rest, through which the iris protruded. Moreover, the palpebral aperture was on a lower horizontal plane than that of the healthy eye, which always occurs whenever, during an attack of ophthalmia, the eye acquires a development which exceeds its normal size. Such was the condition of the oculo-palpebral region when M. Boissonneau was called upon to adapt an artificial eye. To suit these organic peculiarities this artist had to construct a shell which should only exercise upon the staphyloma, as upon the rest of the eyeball, a

pressure equally light and regular. This he accomplished by making an excavation, corresponding to the staphyloma, destined to receive the protrusion of the cornea, so as to avoid all cause of inflammation of the globe of the eye. The effort was crowned with complete success. The patient wore the shell without any inconvenience; and after the lapse of a few days, when she was quite accustomed to it, she assured us that she was quite at ease with her artificial eye. What struck her most, and which she could not understand, was the improvement which was produced in the healthy eye. The pupils could not explain the phenomenon any better, the majority of them being present at the adaptation of an artificial eye for the first time.

The only desideratum wanting in this operation was the raising of the palpebral opening which was a little too low. This was not the fault of the artist, and time alone could remedy the difference in level between the two palpebral openings. The stretching of the eyelids, by a greatly enlarged eyeball, is analogous to the stretching of the abdominal muscles in ascites; it is necessary for a certain time to elapse before the tissues can again resume their former tonicity.

When the patient left the hospital, two months after her admission, the staphyloma seemed to have diminished; the hernia of the iris no longer protruded, and the cornea at these points was more firmly cicatrized.

In the case under the care of M. Nélaton the use of the artificial eye may be considered as a preventive of the aberrations of vision, the loss of the eye being of two months' standing. But as I have before stated the aberrations may become more intense, and the nature of the morbid phenomena may escape the sagacity of the medical attendant, and the remedies, consequently, be useless.

The following case is that of a lady who was confined to her apartment for eight years, and who, five days after the application of an artificial eye, recovered her former sight:—

Incomplete Disorganization of the Cornea ; Functional Aberration of Vision in the Healthy Eye, causing the Sequestration of the Patient for Eight Years ; Application of an Artificial Eye ; Rapid Cure.

Madame X., the mother of one of our medical celebrities, lost her right eye, after an attack of ophthalmia, in 1848. Although vision was completely destroyed, yet sufficient sensorial impressions

persisted to react on the healthy eye, so that it was so sensitive to the action of wind, cold, and damp that, notwithstanding the use of very dark blue spectacles, she suffered to such a degree that she had to confine herself to her room. All the means employed were of no avail, and she believed herself the victim of an incurable disease. At last, after a seclusion of eight years in almost complete darkness, she determined to come to Paris for advice. Her father sent her to M. Desmarres, who, not finding any inflammation of the disorganized eyeball, advised her to try the effect of an artificial eye, and sent her to M. Boissonneau, junior.

The eye was only diminished about a fifth part of its natural size; the cornea, not being completely destroyed, was very sensitive, so that the prosthetic shell had to be constructed so as to avoid all contact with this part. After several trials this clever artist at last

Fig. 5.



made a shell* (Fig. 5) which the patient could wear, and which she could at first wear for an hour, afterwards for two. At last, on the fifth day, she wore the shell for the whole day. Under the influence of this screen the unpleasant symptoms ceased immediately, and the health and spirits returned to their former condition.

This lady has worn her artificial eye for seven years, and has returned to her former habits. She can walk out in all weathers, and go into society, and neither the inclemency of the weather nor the glare of the lights have any injurious effect upon her.

Had the eye been extirpated the result could not have been more complete; but then the artificial eye could not have been so well adapted.

While considering the subject of prothesis we do not wish to enter into the question of extirpation of the disorganized eyeball in cases in which the lesion of this eye reacts on the function of the healthy eye. A question of such importance, and of so serious a nature should not be discussed in an incidental manner; we shall, however, again return to its consideration. Notwithstanding the title of this paper we shall venture to give the history of a case in which this practice failed, and which will, at the same time, be an example of the rare condition in which ocular prothesis is inapplicable.

* In this and the following figures the letters E and I mark the points corresponding to the external and internal angles of the eye. This piece is represented so as to show the depth it was necessary to give it so as to avoid all contact between the cornea and the shell.

Neuralgia Complicated with an Ocular Concretion; Extirpation of the Eye; Impossibility of the Application of Prothesis.

Madame X., a wealthy Spaniard, 50 years of age, suffered, from time to time, for several years, from neuralgia in the right oculo-palpebral region. In the year 1860, when travelling in Germany, her eye was attacked with an acute inflammation. Being near Berlin, she hastened to place herself under the care of Professor Graëfe. This talented oculist discovered that the complications were caused by a calcareous concretion—he proposed to the sufferer to have the eye extirpated. The operation was performed according to Bonnet's method (of Lyons); the eyeball was enucleated so as to preserve the muscles. The patient recovered rapidly; and the cavity which remained beneath the eyelids was quite suitable for the adaptation of an artificial eye. The lady hastened to Paris, in order to secure more fully the advantages of prothesis. On her arrival, two months after the operation, Madam X. was sent to M. Boissonneau by Dr. Dunglas, who attended her during her residence in Paris. The oculo-palpebral cavity was, as we have said, in the best condition in which it could be after such an operation; there was no inflammation, cicatrization was complete, and the small stump formed by the re-united muscles preserved sufficient power of motion to communicate some to the artificial eye. In a word, every circumstance seemed favourable for as complete a result as could be expected after the eyeball had been cleverly and successfully extirpated. The patient, medical attendant, and oculist had no doubt of success, but they were all disappointed. The first eyes tried by M. Boissonneau were worn without inconvenience; their volume was gradually increased, but not equal to that of the healthy eye. These trials were received with gratitude, for the artificial eye, by everting the eyelids, prevented the ciliæ from irritating the conjunctiva; but this success was not of long duration, and the lady was obliged to forego the benefits of prothesis, notwithstanding that the smaller shells did not exert any pressure on the stump, nor any twitching of the eyelids, the inconvenience increased; the mucous membrane became irritable; and the neuralgia returned. Numerous modes of special treatment were employed without advantage, and for two years this lady could not bear the artificial eye for more than one hour at a time, and even then not every day.

This failure of prothesis is, I must say, an exception; nevertheless, I thought it well to report it, to show the caution with which we should proceed when we have to remove an eyeball.

THE DISPOSITION OF THE SHELL WHEN THE EYELIDS ARE
ADHERENT TO THE OCULAR STUMP.

Of all the lesions complicating the loss of an eye there are none which render the work of prothesis more troublesome than the presence of bands and adhesions between the eyelids and the globe of the eye. In fact, when the adhesions are numerous, the artificial shell has little or no capability of motion, because the stump, which is the chief agent in moving the shell, is itself fixed by these cicatrices. The difficulty is still greater if the eyeball is much atrophied, for the eyelids are then drawn backwards, and the artificial shell cannot push them forward so as to restore their normal prominence.

It is well known that surgeons obstinately continue to endeavour to destroy these obstacles so as to facilitate the adaptation of the artificial eyes; but their efforts, in this respect, only serve to render the task of the oculist more difficult, if not impossible. We do not hesitate to insist on the unfortunate results following from even those operative proceedings which have been most praised, for this serious error is far from being corrected by the numerous failures. Of this we can give recent proof—for only yesterday we were consulted by a poor girl, who had been waiting with impatience for six months to have her deformity redressed, so that she might return to her situation. She continued in this deplorable condition—as the oculist into whose hands she had the misfortune to fall wished to apply one of those methods which he was in the habit of obstinately employing. I sent her to M. Boissonneau, junior, and in a fortnight she will return to her situation; and it was high time, for her means of support are exhausted.

It is, therefore, necessary to impress upon surgeons the truth—that all their endeavours to destroy a synblepharon are useless,* particularly when the palpebro-ocular adhesion extends to the bottom of the conjunctival sinus. When it is desirable to employ a prosthetic shell, the simplest method is to leave to the ingenuity of the artist employed to make the eye, the formation of indentations in the border of the enamelled shell corresponding to the cicatricial bands. These lesions, though inconvenient, and rendering the adaptation of the shell more difficult, are not insurmountable, for they are generally limited to the lower eyelid. The following cases are proofs of what has just been stated:—

* Except Mr. Teale's operation, which is most effectual.—TRANSLATOR.

Atrophy of the Eye, complicated with Adhesion to the Stump, extending superiorly to the bottom of the Sinus.

M. X., a notary, aged 29, was wounded when out shooting. A grain of shot penetrated the left eye, having passed through the upper eyelid, near the internal angle. The eyeball was disorganized and atrophied to about half its natural size. At the point where the shot penetrated, an adhesion formed between the eyelid and the globe. The wound had involved the bottom of the conjunctival sinus.

The inflammation continuing for a considerable time after the wound was healed—that is to say, after the atrophy of the globe of the eye—M. X. was unable to avail himself of the advantages of prothesis for four months after the accident. During this time the eyelids lay in contact with the ocular stump; their tissues were retracted, so that they became shortened in their extent.

Two indications had to be fulfilled by the artificial shell—firstly, to fit them upon the band without exerting more pressure upon it than on the rest of the conjunctival sinus; secondly, to restore the eyelids to their primitive width, and preserve this. The indentation at (A Fig. 6) is to receive the adhesion, whilst the depression at (E) rides upon the fold which the conjunctiva frequently forms after atrophy of the globe. The object of this arrangement is to maintain the separation of the angles of the eyelids as in the healthy eye, which the traction maintained by the cicatricial band on the opposite angles had a tendency to destroy.

This shell is movable, does not give any inconvenience, and M. X. has used the same model for eight years.

Fig. 6.

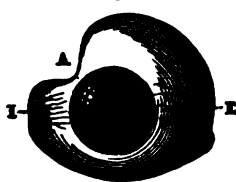


Fig. 7.



Disorganization of the Eye; a Double Cicatricial Band of the Inferior Eyelid; a Double Indentation in the Border of the Shell.

M. de X.; his gun burst in his hand when out shooting. A portion of the barrel wounded the right eye in two places, which implicated the lower eyelid and the eyeball; the latter was

disorganized. The two wounds of the eyelid gave rise to two cicatricial bands which involved the whole depth of the conjunctival sinus; one was situated near to the external commissure, the other at the external third of the lid. Professor Nélaton, under whose care the patient was, left these adhesions untouched, knowing that M. Boissonneau could triumph over them.

Fig. 7 represents the shell which this artist made for the case. The two indentations A and B, on the inferior border externally, correspond to the two bands, on which they rested without irritating them. The eyeball, being rather more than half its normal size, communicated a considerable degree of motion to the shell.

M. X. has worn this model for two years and a-half.

Cicatrices following burns are more tense than those after other injuries. A simple indentation is not then sufficient; it is necessary that the edge of the shell which corresponds to the palpebral adhesions should be disposed so that it may rest upon the adhesion without exciting inflammation.

Eye Disorganized by a Burn ; Synblepharon Uniting the Inferior Eyelid to the Eyeball throughout its External Half.

M. de X., aged 30, professor of chemistry in an Italian university, was one day in his laboratory, engaged in making an experiment, when the matrass, which he was about to put upon the fire, exploded. Some drops of the acid were splashed into his left eye; and, notwithstanding the means he at once applied to neutralize the effects, the cornea was destroyed, the vision lost, and, finally, the lower lid united partially to the eyeball. Professor Marcacci, of Pisa, was called upon to attend the case; and when he was cured sent him to M. Boissonneau.

Fig. 8.

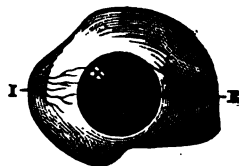


Fig. 8 represents the artificial eye which this artist constructed to conceal the deformity of this wound. Its general conformation is that of a shell constructed to fit a voluminous ocular stump, except that the lower edge is very much sloped off so as to suit itself to the synblepharon. Thanks to this arrangement the shell fits as well as if no complication existed. The artificial eye is equal in size to the healthy one, and its movements almost as well performed.

These bands may be caused by the improper use of artificial eyes. We shall here give some examples, for we cannot be too careful in

warning patients of the unpleasant consequences which sometimes follow the use of shells intended to conceal their deformity.

When the artificial eye is well made, and properly fitted, and is used with that prudence which common sense suggests, it gives no inconvenience, and may be said not to be in the least injurious. But, on the contrary, if the manufacture is left to fancy, and it is badly fitted, particularly if the shell is large, and if it is worn after the enamel is destroyed, and the surface roughened, and the inferior edge sharpened, or if it is not removed during the night, malformation of the oculo-palpebral cavity may always be expected to follow. It is generally the inferior sinus that first becomes affected. The mucous membrane swells, which increases the pressure on the affected part, and excoriation takes place. To this first effect on the palpebral conjunctiva the action of the roughened surface is added, and by this combination vegetations sprout up; these take the form of granulations which are often pedunculated; the patient then consults his medical attendant, who excises the vegetation, cicatrices follow, reducing the cavity, and the shell has to be diminished in size. When these accidents frequently recur the cicatrization extends to the bottom of the palpebral sinus, which fills up by degrees, and the eyelid at last becomes united to the eyeball throughout its whole extent, as in the case of a burn.

Synblepharon caused by the use of Deteriorated Artificial Eyes of too Large a Size.

Madame X., aged 30, by an inexcusable carelessness, and in spite of frequent warnings of the injurious effects resulting from wearing artificial shells for too long a time, allowed a synblepharon to form, so that at the end of 10 years she was obliged to forego the advantages of prothesis, and had to return to the bandage.

This woman kept one of the most frequented shops in the *Chaussée d'Antin*, and she was in despair at this misfortune. One of her customers came to me in the hope that I could recommend some artist to her who could repair her deformity. I examined the patient, and found that a portion of the centre of the sinus still existed which had not been filled up by cicatrization. I thought that M. Boissonneau, junior, could take advantage of this small cavity for the adaptation of an artificial eye.

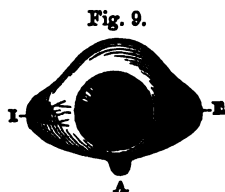


Fig. 9 exhibits the form and size of the shell constructed by this artist. The little appendix at the lower part, A, introduced into the only remaining portions of the inferior sinus, served to fix this part of the shell. The superior oculo-palpebral sinus had also lost much of its depth, indicated by the narrowness of the superior sclerotic segment of this shell. Enlightened by an experience so dearly bought, this woman removed her artificial shell from time to time, and for more than eight years she always used the same model.

At times, especially when the eyeball is much atrophied, very irregular-shaped tumours are formed, produced by the causes mentioned above. In such cases the construction of the artificial shell is a work of great delicacy, and requires a very clever artist.

Considerable Atrophy of the Eye ; a Tumour produced in the Oculo-palpebral Sinus by wearing the Artificial Eyes for too Long a Time.

Madame X., piano teacher, lost her right eye from an acute ophthalmia, when she was five years of age. Four years after the accident artificial eyes were employed ; but, from the carelessness of her parents, the shells were rarely renewed, so that at the age of 19 she had to give up using them. In consequence of the irritation produced by the inferior edge of the shell, which was too large, and from which the enamel was worn off, a large cicatricial tumefied band formed, which was not firm enough to support the shell. The artificial eye was ejected from the oculo-palpebral cavity whenever she made any sudden movement. The patient had generally to wear a bandage to hide her deformity.

Madame X. had come to that period of life when the regularity of her features was all important to her. She intended to teach music, and depended entirely on her own talents for support. She could not prosecute her career unless she could abandon her bandage. She tried in vain the shells made by various oculists, until she discovered M. Boissonneau, junior, who, more fortunate than his *confreres*, made her a model which she uses to this day—when she is twenty-nine years old. *Fortunate* is not a term to apply to the efforts of M. Boissonneau ; for this artist does not hesitate to devote six months to ensure success, and to construct more than thirty shells, of various shapes, before obtaining one that could be worn by the patient without inconvenience or fatigue.

The drawing which we give (Fig. 10) represents this shell, in profile, showing its external edge.

Fig. 10.



In shape this is very different from that of the artificial eyes of which we have been speaking. The following are the anatomico-pathological peculiarities which required this arrangement:—

We have already stated that this lady lost her eye in extreme youth, and that she did not commence the use of artificial eyes for several years after the accident. The partial atrophy of the disorganized globe and the absence of the prothetic shell for four years, gave rise to a remarkable arrest of development in the orbital cavity. We may add, that there were numerous cicatricial bands, nearly all more or less tumefied, which had been produced by the prolonged use of the first shells; and this explains the remarkable contraction which the oculo-palpebral cavity presented. The chief obstacle to the work of prothesis was a thick band which occupied the whole inferior conjunctival sinus, and extended from one angle of the eye to the other. M. Boissonneau had, in the first place, to dilate the cavity, so as to render it capable of receiving a shell, which should correspond in size to the healthy eye. Then to form a point of solid support, without exciting irritation. He attained his object by forming an artificial sinus behind the swelling, which, as we have said, occupied the whole inferior sinus. The shell was made so as to rest and to hook itself at the same time in the new sinus, with the assistance of the superior border of the shell, which was curved backwards and downwards. The cicatricial band lies between the prolongation (O) and the inferior edge of the shell, which only rests on the back of the free ciliary border. As the adaptation is perfect, no one could suspect, even on a close examination, that the shell does not rest as usual in the conjunctival sinus.

The shell is so firmly fixed that the lady can make any movements without fear of its falling out, and is able to wear it the whole day. In fine, with regard to appearance and motion, the effect is so satisfactory to this lady that she has been able to resume her teaching, and to go into society without her deformity being suspected by anyone. She married very suitably some years ago.

It was in 1852 that M. Boissonneau invented this model for Madame X. She has worn the same kind ever since. Under their use there has been no fresh unpleasantness, and the cavity is so much improved that M. Boissonneau is now engaged preparing one for her of a less complicated form.

APPLICATION OF AN ARTIFICIAL EYE AFTER EXTIRPATION
OF THE EYEBALL.

The lesions which necessitate the extirpation of the eyeball may be limited to the internal structures of the organ, or may have engaged the surrounding tissues.

In the first case, enucleation of the eyeball is all that is necessary; whereas, in the second, the surgeon has to sacrifice a considerable amount of the neighbouring parts.

The condition of the orbit varies considerably after such operations, and the deformity is always considerably greater than when the eyeball is simply atrophied.

Where it is possible to remove the eyeball according to M. Bonnet's* method, the muscles and the greater portion of the conjunctiva being preserved diminishes the size of the cicatrices, and the rapidity with which the wound heals renders the cicatricial structure less liable to contract; moreover, the stump is movable, and can communicate its motion to the artificial shell. It is very different when all the structures contained in the orbit have been removed. The eyelids are drawn backwards by the cicatrices, so much so that in some cases the eyelids are found to be on a plane a centimètre posterior to those of the healthy eye. They are also frequently drawn into folds by the cicatricial bands, which diminish their extent.

The variations in the orbital cavity are not less various; the granulations frequently contract when cicatrized, to such an extent that it is impossible to apply an artificial eye; or, if possible, the shell should be so small that it could be of no advantage to the sufferer.

The indications to be provided for by the prothetic shell increase in proportion to the defective condition of the orbit after extirpation. In fact, the artificial shell should only push the lids forwards, so as to diminish their retraction. The eyelids do not recover their colour and shape unless particular attention is given to the convexity of the enamel shell. It must also be so constructed that it may fit a very irregular cavity without giving uneasiness. It should also reëstablish the conjunctival sinus, so as to avoid lachrymation. Finally, it should dilate the cavity so that the artificial eye may be made as nearly as possible equal in size to the healthy one.

The motions of the artificial eye, which are generally limited and often none, have lastly to be attended to.

* Of Lyons.

Many surgeons, fearing the results which might arise from a foreign body, such as an artificial eye, being placed in an orbit from which the eye had been removed for a disease having a tendency to return, hesitate to employ an artificial eye, notwithstanding the great desire expressed by the sufferers to conceal the deformity which resulted from the operation to which they had submitted. The results furnished in the following four cases show how little foundation these fears have in fact:—

Melanotic Tumour ; Enucleation of the Eyeball ; Artificial Eye worn for Thirteen Years.

M. A., when 34 years of age had his left eye extirpated by Professor Velpeau, in the year 1847; this operation was required for a melanotic degeneration of the internal structures of the eyeball, and limited to them. The method of operation adopted was that of Bonnet, of Lyons. The muscles and conjunctiva being preserved, formed, when healed, a small stump, which communicated tolerably decided movements to the artificial shell. The cavity was rather

Fig. 11.

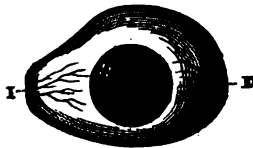
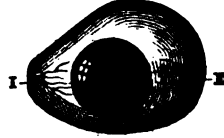


Fig. 12.



larger than usual. When healed, M. A. was sent to M. Boissonneau, junior, to make an artificial eye for him. For thirteen years he has always employed the same model, and, as it has been always carefully fitted, his prothetic shell has never caused him the least inconvenience.

Tumour of the Maxilla developed in the Cavity of the Orbit ; Extirpation of the Tumour and Enucleation of the Eyeball ; Artificial Eye worn for Eighteen Years.

M., four years old, was admitted into *La Charité* to have a tumour removed, which sprang from the maxillary border, and grew into the cavity of the orbit. Vision being destroyed, Professor Velpeau removed the globe of the eye along with the morbid growth. When the wound was healed, M. Velpeau advised the parents to bring the child to M. Boissonneau, junior, so as to prevent an arrest of development by the intervention of prothesis, as the orbital cavity was sufficiently large to receive an artificial shell. As the tumour

engaged the lower portion of the orbit, the operator had to remove a very large portion of the conjunctiva, so that the inferior sinus in which the shell should rest was rather deep. Notwithstanding this circumstance, M. Boissonneau, junior, was able to construct an eye of average size; when this was achieved the child was conducted to M. Velpeau.

Since that time, M.—who is now a man—has worn an artificial eye; and, although his parents frequently neglected to replace his shell when worn out, he has never suffered any inconvenience, with the exception of a slight irritation, which the substitution of a new shell was sufficient to remove completely.

Cancer of the Eye; Extirpation of the Eyeball; Absence of the Sinus of the Conjunctiva; Peculiar Position of the Prothetic Piece.

M. S., the son of a German physician, when 24 years of age had his eye extirpated on account of a cancerous degeneration of the globe. As the young man was a student of medicine at Bonn, he was operated on by the Professor of Surgery at that University. It appears that in this case the method by enucleation could not have been put in practice, as the cavity resulting was of a very irregular form. The upper eyelid only was free; the lower was adherent throughout its entire extent to the fibrous structures which filled the cavity of the orbit. This circumstance prevented the eyelids from closing, which exposed the cavity of the orbit, permitting the red tissues which lined it to be seen.

M. S. recovered rapidly; but a shocking deformity remained, which he endeavoured to conceal with a bandage. M. S., being a young man, he not only wished, but it was necessary for him to follow his pursuits; he also wished to compete for a position which, at a later period, he obtained. For these reasons he determined to try what prothesis could do for him.

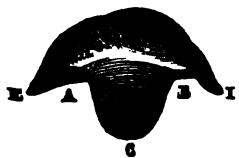
Unhappily he was wrongly informed, and visited all the principal cities of Germany in search of an artist which did not exist. He found many collections of artificial eyes, ready made, from which he sought to adapt one to his own case; but in such a case success was impossible; for, on account of the absence of the inferior sinus, none of the shells could be retained in position. One oculist tried to detach the lower lid from its attachments by repeated operations, but with effect of rendering the condition of the parts worse and worse. The number of cicatrices was augmented, and the attempts

to unite the eyelids only aggravated the deformity. Although much discouraged, M. S. decided, in February, 1855, to go to Paris; before doing so he consulted M. Sichel, who saw no hope but in prothesis, and sent him to M. Boissonneau.

M. S. went, accompanied by his father, to this oculist, who found the following conditions:—The cavity was of average dimensions; but the sides were lined by numerous cicatricial bands. The inferior eyelid was adherent throughout its entire extent. Two firm bands—one occupying each angle—formed two well-marked protrusions. The upper eyelid was free, but the cicatrices to which it was attached prevented its being completely lowered. The red surface of the cavity was quite exposed.

From the first trial, M. Boissonneau saw that he would have to contend with innumerable obstacles. In fact, the shell, having no support, fell at the slightest motion. As soon as he succeeded in fixing it firmly, the contractions of the orbicularis threw it out. When the upper eyelid contracted, the shell was drawn inwards and turned so that its concave surface was turned outwards. This difficulty was the most troublesome to overcome. M. Sichel, who was present at these trials, suggested to M. Boissonneau to place a pledget of lint in the cavity of the orbit—this device almost succeeded. But the lint had the effect of exciting some irritation, and increasing the secretion of the membrane, whereas the enamel has not this inconvenience; on the contrary, when substituted for the lint, the membrane loses its redness, the secretion diminishes, and rapidly disappears. He then tried to afford to this patient the advantages which he had before observed when he had employed the enamel alone. At last, after a month had been spent in experiments, M. Boissonneau constructed the model which is represented in Fig. 13. In this drawing the inferior edge of the shell is shown.

Fig. 13.



This shell answered every purpose that could have been desired in such a case. M. S. could make every motion without fear of seeing his eye falling out. The artificial eye could be moved from side to side, but not up and down. When looking straight forward the two eyes are quite parallel. The shell restored the palpebral opening to its normal form and size.

The patient wore this shell from the time he rose in the morning until he went to rest at night, without the slightest inconvenience.

The structures did not present the least signs of irritation. The secretion and flow of tears returned to their normal condition without being mixed with muco-pus.

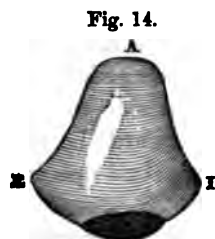
Seven years have now passed since these results were obtained. His father states that there has been no change since his visit to Paris. He had not even the trouble of calling on M. Boissonneau; when he required a new shell he had only to write for it.

*Melanotic Cancer ; Extirpation of the Eye and Muscles ;
Unusual Position of the Enamel Shell.*

Abbé P., 50 years of age, was sent, in 1856, to M. Boissonneau, by M. Deprès, *Chirurgien-en-Chef* to the Hospital of Bicêtre, who had extirpated the right eye. The extent of the disease had compelled the surgeon to remove the eyeball, the muscles as well as the fatty cellular tissue of the orbit. Contrary to the usual course, the cavity retained its full dimensions and did not fill up with fibrous growths, as is usual after extirpation of the eyeball. A soft bed of cicatricial tissue covered the bone. The abbé was a very distinguished literary man, and a diligent student; his health was being very much enfeebled by his labours and had lost all its vigour. After a time the eyelids sank into the cavity. The deformity was so great that, notwithstanding the simplicity of his manners, this ecclesiastic desired to have it remedied.

When M. Boissonneau saw the patient, the cavity presented the following appearances:—It presented in its antero-posterior diameter the form of a cone, of which the base was in front. It was necessary to have recourse to means other than those usually resorted to. The form of the shells generally in use—more or less hemispherical and concave—was insufficient. It was lost in the depth of the cavity. It was necessary to find a point of contact much further back than usual. M. Boissonneau constructed a shell, cylindro-conical from before backwards. The summit of the cone, supported

on the bottom of the cavity, measured almost half a centimètre in circumference; but prudence required that the point of support should not be limited to the bottom of the cavity, but that the pressure should be distributed over as large a surface as possible, so as to afford the eyelids sufficient support to keep them in position, without, however, giving rise to any irritation of



the tissues which lined the orbit.

For this purpose, and also to give the anterior portion of the shell the form of the healthy eye, the two parts corresponding to the two angles (E and I) were elongated, so as to be supported by each of these angles. Moreover, all the inferior surface of the shell was hollowed out, so as to press lightly on the posterior surface of the lower eyelid. Thus, the points of contact were as much disseminated as possible.

The shell being light, maintained a parallel position with regard to the other eye without causing fatigue. The natural conformation of the Abbé P.'s eyes being deeply set, rendered the absence of motion less remarkable. Thus, the deformity was completely concealed.

This venerable ecclesiastic did not long enjoy the advantages of prothesis, for six months after the operation he died, as is frequently the case, from a secondary melanosis of the liver. But a fortnight before his death he wore his shell, which, notwithstanding its length and unusual form, never excited the least irritation in the orbital cavity.

We believe that we may insist on the value of these observations; for Mackenzie, in his excellent treatise on Ophthalmology, says:—"After the extirpation of the eye, it is rarely that an artificial eye can be made use of." Yes, that is often true; especially when one endeavours to employ a ready-made eye. It also often happens that a clever artist often succeeds in surmounting the obstacles by knowing how to construct the shells to suit the deformity of the palpebral cavity. We have chosen those forms constructed by M. Boissonneau, which differ most from those in general use, in order to show to what a degree of perfection ocular prothesis has arrived. These results will henceforth prevent surgeons making experimental operations, such as those of Dieffenbach, who, after extirpation of the eye, thought he could fill up a part of the orbit with a portion of the skin taken from the temple.

In this case, as in those in which cicatricial bands exist—we do not fear to repeat—the work of restoration must be entirely given up to the cleverness of the artists who make the artificial eyes.

We have, moreover, chosen our examples from cases in which the shells have been worn for many years, so as to prove to surgeons the harmlessness of the intervention of prothesis in these cases. Our dear master, M. Velpeau, in communicating, amongst other facts of his practice those which we have given above, told us that he did not believe there was a single surgeon in France who would

hesitate to employ an artificial shell in these cases. This precept is not yet so general as he thought, for we read in a note to the last translation of the work of Mackenzie:—"Is it prudent to wear an artificial eye after the eye has been extirpated on account of scirrhus, fungus, and melanosis? Without proscribing absolutely in such cases the use of the artificial shell, we say that it should be removed before the least irritation is excited. Patients who have escaped such formidable affections should be content to live with closed eyelids.

Clinical experience shows that, in such cases, there is no danger connected with the use of the artificial eye. The restoration is not less complete, when the artificial shells do not wound the patient, than it is when the organ has been destroyed by a traumatic injury.

Prothesis is difficult ; but as its use is harmless, the practitioner should not doubt the benefit of artificial shells in these cases.

ON OCULAR PROTHESIS IN CASES OF DIVISION OF THE EYELIDS, OR COLOBOMA.

Wounds of the eyelids, when they have been deep enough to attack and destroy the globe of the eye, often leave behind them a division of these membranous veils. The edges of the wound, badly closed, heal separately, and there remains between them a space, something in the form of a V, to which has been given the name of *coloboma*.

The operation required to counteract this deformity is most simple. It is only necessary to vivify the edges of the flaps; and, after having carefully brought them together, to keep them so, with the help of sutures, until their reunion is complete. But, should we seek, in every case, to re-establish the cohesion of the eyelids? and may we not, by so doing, interfere with the successful intervention of prothesis?

When the wound is in the upper eyelid, the veil of which is rather extensive, it happens most frequently that the bottom of the conjunctival sinus has not been reached, so that the two edges of the wound are free from adhesions; then surgery intervenes with success, and we have already published a case, from the practice of Professor Roux, of recovery from coloboma, after which an artificial eye had been adapted.

It is not the same when the solution of continuity exists in the lower eyelid. Here, almost always, the wound extends to the

conjunctival sinus, to its greatest depth; and one of the lips of the wound always contracts, in these cases, an adhesion with the globe of the eye. Here the restoration of the eyelid must be prejudicial to the adoption of an artificial eye; so that the best way is not to interfere with the coloboma.

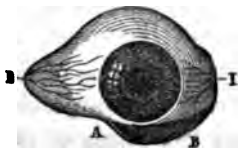
The following is an example of one of the means of prothesis to counteract this deformity.

Wounds affecting both the Lower Eyelid and the Globe; Adhesion of one of the Lips of the Wound to the Ocular Stump; Coloboma; Arrangement of the Shell so as to prevent the necessity for Blepharoplasty.

General X. received, in Africa, a blow of a yataghan, which divided the lower eyelid of his right eye, penetrated the globe, and made a large incision in his cheek. This wound, dressed on the battle field, did not receive the same careful attention which it might have done under other circumstances. The loss of the eye caused the surgeons to allow the wound of the cheek and that of the eyelid to unite spontaneously. Cicatrization took place by the second intention, and left a coloboma in the lower eyelid, and an adhesion between the ocular stump and the external lip of the fissure.

The general, continuing on active service, could not wear a bandage, and procured an artificial eye. Unfortunately the shells first used were badly adapted to the conformation of his orbital cavity; they injured the conjunctival sinus in several places. The depth of the sinus was soon diminished by granulations, principally towards the temporal region; the adhesions also, irritated unceasingly, were greatly thickened. All this induced him to change his oculist. When the general came to M. Boissonneau the solution of continuity which existed in the lower eyelid was in the form of a triangle, the base of which, turned towards the ciliary border, measured about four milimètres in breadth and the conjunctiva, which was of a bright red colour, was exposed. Moreover, the conjunctival sinus had only a depth of three milimètres, and the eyelid adhered to the globe, as we have said, by a very thick band.

Fig. 15.



As Fig. 15 represents it, the new shell adapted by M. Boissonneau shows, on its lower edge, a slope, A, so as not to press the adhesion, or interfere with the movements of the piece. Then, at the side of this slope, and also on the lower border of the sclerotic,

which allowed the opening produced by the coloboma to be seen, this artist gave the enamel a flesh tint, to match the skin of the eyelid, in order to hide the bad effect produced by the white colour of the artificial eyes formerly used by the general.

This tint, A B, given to the lower edge of the shell, did not replace the loss of substance in the eyelid, but it rendered the deformity less apparent, as, at the distance of a few steps, the loss of the palpebral veil was not perceptible.

It will be remarked, perhaps, that the external part of the piece, E, is very narrow. This form was necessitated by the want of depth in the lower and upper conjunctival sinuses, resulting from the presence of the granulations of which we have spoken above.

OF PROTHESIS IN CASES OF LOSS OF SUBSTANCE OF ONE OF THE EYELIDS.

Cases in which wounds or disease destroy a portion of one of the eyelids, and, at the same time, the globe of the eye present such great difficulties that we know of no attempt at restoration by prothesis.

In spite of the great progress accomplished by restorative surgery, we can no longer think of attempting a useful blepharoplasty. At present (whatever may be said to the contrary) we may repeat, with Celsus:—"Si palpebra tota deest, nulla id curatio restituere potest." When the skin of the eyelid only is wanting, it can be replaced by the neighbouring skin; but the eyelid is not composed of skin alone—it has a cartilage, eyelashes, and muscles, so that when the entire thickness of the membranous veil is wanting there is no organic restoration possible. Besides, the new tegument could not present the most striking character of the organ—its mobility. It is even doubtful if, after the attempted restoration, an artificial eye could be adapted. In short, for so small a result, no surgeon would think of attempting blepharoplasty.

This reminds us to notice a very ingenious attempt at prothetic restoration, in the case of a young officer in the Crimean army:—

Destruction of the Globe of the Eye and of the Two Outer Thirds of the Superior Eyelid, by a Gunshot Wound; Application of an Artificial Eye in Enamel, supporting an Eyelid in Wax.

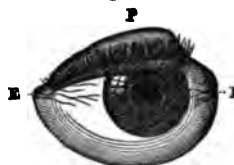
M. B., sub-lieutenant in an infantry regiment at the time of the assault on the Malakoff Tower (Crimea), was struck by a projectile, which wounded the right eye, and carried away two-thirds of the

upper eyelid. Intense ophthalmia, followed by sloughing of the cornea, was the consequence of this wound. When this young officer returned to France he consulted a clever surgeon, M. Guépin, of Nantes, who, judging autoplasty impossible, sent him to M. Boissonneau, junior, to have his deformity remedied by the aid of a prosthetic piece. The parts presented the following appearance:—The atrophied globe of the eye retained about five-sixths of its normal size; its form was regularly rounded; the cicatrix of the cornea very small. These lesions were complicated by a loss of the substance of the upper eyelid, about two-thirds of the outer part being gone. About three millimètres remained intact at the external commissure; the remaining portion, at the inner angle, was something less than one centimètre. The mutilation measured about 20 millimètres in length. Fig. 16 represents the form of this lesion, and the dimensions of the substance lost.

Fig. 16.



Fig. 17.



One can easily imagine the unpleasant appearance of the eye—a large white globe moving in its orbit, greatly exposed by the loss of substance in the upper eyelid, as well as the large red cicatrix which it presented. M. B. wore a bandage, not only to hide this deformity, but also to protect the globe of the eye from the action of the air and to protect it from dust. The use of this bandage detracted greatly from the appearance of a young officer of 22 years of age. Moreover, M. B. was anxious to pursue a career so brilliantly begun, as already he was decorated with the military medal, the cross of the Legion of Honour, and that of Mitidjé. So many motives were scarcely wanting to incite the zeal of M. Boissonneau, junior, who occupied himself, at first, with the prothesis of the eye, on the success of which depended greatly what could be attempted for the artificial restoration of the eyelid.

The tolerance of the stump of the eye was not doubtful; the lower eyelid offered a sufficient support for the enamel shell; it remained to utilize the flaps of the upper eyelid to maintain the

piece securely in its position, which was the more necessary as the extreme mobility of the ocular stump allowed of the artificial eye having a great range of motion; and, fortunately, the internal flap was extensive enough to support the corresponding part of the artificial eye, while the preservation of the external commissure sufficed to retain its opposite extremity. The general aspect of the eye, its size, the colour of its various parts, and even the direction of its axis, were all obtained without much difficulty; but the deformity was far from having disappeared. The large notch in the upper eyelid allowed a great extent of the upper part of the shell to be seen, so that the white of the enamel, representing the sclerotic, and the bright red of the palpebral cicatrix, made it most desirable that they should be concealed, by adapting to the upper part of the shell a portion of artificial eyelid, which might replace the lost substance of this veil.

Many methods presented themselves. The one most likely to attract M. Boissonneau was that of modelling the eyelid in enamel. He had all the materials at hand; and it is always an advantage when the same artist can execute the different parts of a piece; but all the attempts which he had seen made by his father proved to him the insufficiency of this material for the restoration of cutaneous tissue, for the appearance of enamel is always brilliant, whilst the skin is dull; and in this way the imitation is, therefore, clumsy. Then, the impossibility of placing lashes in the eyelid adds to its imperfection; and, in using it, it is open to the objection of making the pieces too heavy and too fragile; and, as a last consideration, but by no means the least important, the difficulty in executing the pieces makes their price very high. Our oculist decided on making an enamel piece, merely to serve as a model, and then began to study the different materials proposed for the construction of artificial eyelids—principally wax and gutta serena. This last has the advantage of being very durable and easily coloured; but it is more difficult to model than wax, and, besides, it is not so good an imitation of the skin. Wax, on account of its semi-transparency, was, therefore, the material to be chosen in this case.

The choice made, M. Boissonneau brought the piece, complete, which he had constructed in enamel, to M. Talrich, wax modeller to the Faculty of Medicine, and got him to attach to an artificial eye, arranged for the purpose, a portion of eyelid of the size of the piece lost, and corresponding with the two remaining flaps, P, Fig. 17. Thus restored, this eyelid had not only the

same form, the same aspect, the same colour as the healthy eyelid, but also the lashes, suitably arranged, formed, with those which remained, an irreproachable line. All the upper portion of the wax eyelid fitted so well into the folds of the natural eyelid that the joining of the artificial piece with the healthy parts was scarcely perceptible at the extremities. Finally, M. Boissonneau had given to the edge of the piece destined to receive the wax an appropriate form, so arranged that only the polished surface of the enamel should come in contact with the mucus. By this arrangement the use of the piece caused no inconvenience, and its lightness made it as easily borne as an ordinary artificial eye. These details, which we have not feared to enter into, prove that, in this case, the work of prothesis left nothing to desire. Great was the surprise of all who knew M. B., and especially of the surgeons who had been consulted, when they witnessed the happy results arrived at by M. Boissonneau.

Before quitting Paris, this young officer not only took with him several artificial eyes, which were all provided with their wax eyelid, but he took some lessons from M. Talrich, which enables him to model his own artificial eyelid. Each week he devotes about a quarter of an hour to the repairing of these pieces; and, thanks to the aid of prothesis, he has been enabled to remain on active service.

ON PROTHESIS FOLLOWING EXTIRPATION OF THE EYELID, AND
OF THE GLOBE OF THE EYE.

Does the progress of industrial arts at present allow of our oculists practising restorations which were interdicted to their predecessors? This is a question which we are induced to ask ourselves, on seeing them undertake to remedy the deformity produced by the extirpation of the eyelids, and the globe of the eye.

In the sketch which we have given of the history of artificial eyes, we have recalled all that has been done from the remotest antiquity until now, in the construction of *ecblepharos*. In spite of the results furnished by prothesis, scarcely 30 years ago we did not hesitate to pronounce that art had limits which the most ingenious proceedings could not overcome. But those who have been mutilated will not accept these decrees of science, and urge artists to renew their attempts, in the hope that they can even triumph over impossibilities. It is of an attempt of this kind that it remains for us to give the results; but in this case the incitement came from the surgeon.

Cancroid of the Eyelid Destroying the Globe of the Eye ; Extirpation of the Affected Parts ; Application of an Eoblepharos.

In July, 1856, a women, about 30 years of age, was admitted to the *Hospital de la Pitié*, to be treated for an ulceration which had destroyed the eyelids and the globe of the left eye. But one resource remained to overcome this misfortune, that of removing all the parts attacked by the cancroid affection. M. Maisonneuve proposed this operation to the patient; but she rejected it on account of the deformity which would result from it, and which would prevent her from continuing the exercise of her profession. M. Maisonneuve only succeeded in overcoming her resistance by promising to have a prothetic piece constructed for her which would conceal the deformity. The operation was performed; and when the cicatrization of the parts was complete, the surgeon sent for M. Boissonneau, junior, and begged him to undertake the realization of the promise which he had made to the patient.

The globe of the eye and all the surrounding tissues, as well as the two eyelids—in a space limited by the bony edge of the orbital cavity—had been removed, so that this cavity was gaping, and gave the physiognomy of this woman a most repelling aspect. In this case prothesis of the globe would not suffice; it was necessary to replace the eyelids, maintain the piece in a suitable situation, and in so solid a manner that the patient could continue her work without fear of its falling, and without experiencing any inconvenience from it. M. Boissonneau proposed to M. Maisonneuve to replace all the palpebral region, by the aid of a light metal plate (aluminum or silver), which would be hammered out, *repoussé*, to its proper form, and which would be covered by a coat of flesh-coloured paint; an artificial eye, of suitable form, would be fixed between the two metallic eyelids. Two means existed of fixing the piece in its place—either to fasten it to a pair of spectacles, or to adapt a spring to it, which would embrace the back of the head. This apparatus appearing to contain the elements of success, M. Maisonneuve engaged M. Boissonneau to execute it. Having taken a cast of the region, M. Boissonneau consulted with M. Charrière, who undertook to construct the metallic part of the piece, whilst he occupied himself with the ocular enamel shell. The exterior contour of the metallic plate should follow all the sinuosities of the orbital region, cover it up entirely, and find its support on the healthy parts. This piece finished and tried, M. Boissonneau adapted to the palpebral

opening—arranged in the piece—an enamel eye, of the same colour and convexity as the healthy one. This artificial shell was fastened behind the eyelids by a flange, *sertissure*—that is to say, in the same manner as jewellers fasten the stones in the collet of a ring. A painter was then employed to give to the metallic eyelids a colouring, the shade of which would harmonize with the surrounding parts.*

It now remained to fix this piece securely on the part it was

Fig. 18.



destined to conceal. M. Charrière was of the opinion first given by M. Boissonneau, that it would be best to support it by spectacles, the rim of which would serve better to conceal the contour of the plates. Fig. 18 represents this model; but the patient, through an exaggerated feeling of coquetry,

rejected the use of spectacles, and requested the employment of a steel spring, which was fastened to the external edge of the metallic plate, and also at the back of the head. The apparatus fixed, the patient arranged her hair in bands, so as to cover the spring, which was thus completely hidden. Patient and assistants were in the greatest admiration of the result obtained by M. Boissonneau; but we, who are more familiar with the marvels of prothesis, are more difficult to satisfy. What, besides, has happened in this case? Five years have passed, and neither M. Maisonneuve nor M. Boissonneau have again seen the patient. Is it not to be supposed that she has renounced the use of the piece and reverted to that of the classical bandage?

Clever artists, to whom ocular prothesis is confided, should never forget that the most striking characteristic of the organ which it is their care to restore is its mobility; and that when they cannot impart this character to their artificial pieces, they should abstain from making them; for they only transform the existing deformity into another, which, though perhaps less shocking, attracts quite as much attention. The patients are not always—and especially at first—conscious of it; for instance, in a case of *ecblepharos*, when the piece is well made—as in that of which we have just shown the

* A cast of wax adds to the illusion; but as it lasts a much shorter time, its use would only suit for the wealthy.

plate—the patients, in looking at themselves in a glass, have reason to be satisfied with the restoration which they have undergone. Both eyes being parallel, and the degree of opening between the eyelids identical, the deformity disappears completely during the act; but, for the spectators, it is different. That eye, always fixed and motionless, has the most painful aspect; and we are not astonished that the construction of these pieces is a rare fact in ocular prothesis. If we had the direction of a similar attempt, we should prefer having the eyelid half closed; for the appearance of paralysis of the upper eyelid would be less unpleasant—less shocking, in our eyes, at least, than that motionless, widely-opened eye.

We shall sum up these remarks by saying, that the great progress accomplished by ocular prothesis, within the last 25 years, consists less in the employment of new materials for the construction of artificial eyes—as some oculists would have us believe—than in a more attentive study by these artists of the modifications undergone by the oculo-palpebral cavity after the destruction of the globe of the eye.

This study has enabled them more perfectly to adapt artificial eyes, so that, thanks to the notching of the edge of these pieces to adapt them to the surface of adhesions and cicatricial bands, they have succeeded in preserving a great portion of the movements which the ocular stump imparts to them.

To this disposition of modern pieces may be added the not less ingenious one, which consists in one of the edges of the enamel shell being prolonged, so that it can find a support behind the cicatricial folds, at the same time as on the margin of the orbital cavity, as we have shown examples of.

But of all these improvements, the most remarkable and the least remarked (for one must have experienced difficulties in order to appreciate them) is the adaptation of artificial eyes to very large ocular stumps, or where the cornea has not been destroyed. Here the shells must present a peculiar conformation. The depth of the piece is limited, for its prominence between the eyelids must not be greater than in the healthy eye; therefore it is necessary to have recourse to another artifice to prevent all contact between the cornea and the back of the enamel shell. The following is the manner in which some oculists (and they are not numerous) have surmounted this difficulty:—

In ordinary prosthetic pieces, as in the human eye, the layer of

enamel which represents the iris is situated, vertically, three or four millimètres behind the most projecting point of the curve formed by the transparent cornea, so that the antero-posterior diameter of the artificial shell is diminished to the extent of the anterior chamber of the eye. The degree of atrophy which the globe of the eye undergoes in most cases where its function is abolished by a wound, allows the conformation of the normal eye to be followed in the enamel shell; but when the globe of the eye remains voluminous, or there exists a staphyloma of the iris or cornea, this mode of construction is no longer possible. The oculist ought to arrange so that the layer of enamel which represents the iris, in place of being vertical, should be curved, as in cases where, in the normal eye, this membranous disk is pushed forward by the increased volume of the crystalline. In this manner the depth of the enamel shell is increased to the extent of the projection of the interior chamber; and, if the artist has taken care, at the same time, to give to his piece all the amplitude possible, without its resulting in giving it the appearance, when placed under the eyelids, of an exophthalmia, he succeeds in concealing a deformity which, scarcely 20 years ago, was considered irremediable. The case of the lady who remained for eight years confined to her room is an example of this.

In our demonstrations we have preferred facts to assertions; for, as an ancient philosopher has remarked, a fact is a reason plus a proof—*un fait est un raisonnement plus une preuve*.

ART. VI.—*Observations on the Endemic Diseases of British Honduras*. A Thesis, read for the degree of Doctor of Medicine in the University of Dublin, February 16th, 1863. By J. B. HAMILTON, A.B., M.D., M.R.C.S.E., Staff Assistant-Surgeon.

I PURPOSE referring, briefly, to those diseases which may be properly called endemic, and, to a certain extent, peculiar to British Honduras; and, for this purpose, shall divide them, as usual, into Medical and Surgical—the former being, for the most part, the result of miasmata, and the latter, of the reptile and insect pests which render the habitation of Europeans in this climate so dangerous and unpleasant.

Of the former, the most important, by far, are those commonly called miasmatic, or, as their name implies, those induced by the

action of a certain subtle poisonous miasm or malaria; and, as a clear and simple proof of this, I may state that, during the year 1861, out of 283 admissions into the Military Hospital, no less than 139 were for fever of a remittent or intermittent type; and that of the deaths, which were only six in number, four were the result of fever, while one was accidental, and the other from delirium tremens.

A curious fact, and one not easy to explain, in connexion with this malarious influence is, that yellow fever is extremely rare; though hardly a year passes without an epidemic on the same coast, either to the north or south, and frequently both, within a few hundred miles. Remarking on the last epidemic of yellow fever, which took place in 1860, the principal medical officer in charge (Mr. Thornton) states:—"It was exceptional, being the only epidemic that had visited Belize (the chief town) for upwards of 13 years; but this year's epidemic appears to have extended over the whole of Central America, as various cities, north and south of the Honduras settlement, had suffered by one of those waves of the kind which pass over these countries, and it here found a sufficient *nidus*, as it were, in the extensive lagoons and rank vegetation to harbour itself, and spread devastation among the white population, far and near."

I shall now endeavour to explain the causes of these miasmatic diseases, as far, at least, as they are ascertained and understood.

In the first place, it may be laid down as a rule that these malarious fevers are always, to a certain extent, epidemic as well as endemic—that is, they rage at certain periods with tenfold intensity, though, owing to the swampy condition of the country at all times, they are never wholly absent. This period, which is well known there as the "fever season," is generally about the months of August, September, and October; and, to make the reason of this clear, it will be necessary to explain the different phenomena observed at different periods of the year.

The whole line of coast, for many miles inland, consists of alluvial soil and decomposed rank vegetation, and this is especially the case in and about the city of Belize, situated, as it is, on the "Delta" of the Belize River, which is entirely composed of alluvial deposits. As soon, therefore, as the rainy season comes on, which is generally about the month of April, the entire surface of the land becomes flooded, and continues in this state till the beginning of August, when the short, or, as the Creoles call it, the "maugre dry," sets in, with intense heat from the sun, the rays of which, falling perpen-

dicularly on the swamp, soon dry up the surface moisture, and, striking the alluvial soil beneath, engender miasmata to a fearful extent, to the great injury of the white, and, in a lesser degree, of the health of the black population. This having continued for two or three months, the rains again fall, to the general benefit, and continue to do so till January; and when they now cease the long dry sets in, and with it the sea breeze, which, with its invigorating breath keeps continually sweeping the malaria away; and, as almost the entire population reside on the extreme edge of the coast, it stands to reason that the effects of a sea breeze must be most beneficial.

Another great cause of these fevers occurring in the autumn is the prevalence of the *land-winds*, which, blowing from a nor-westerly direction, sweep the miasmata from the swamp right into the town and barracks. This land-wind is also of a most peculiarly chilly character, so much so that at 8, a.m., it is often bitterly cold, with the thermometer standing at 60°; then, about 10½, a.m., the wind falls, and during the greater portion of the day a dead calm prevails, when the average heat in the shade is about 91° to 93°, without a breath of air to temper the burning heat of the sun, which constantly, during these months, is at the enormous temperature of 130°.

This great alternation between heat and cold is, of course, most prejudicial to the European constitution, and predisposes the body to the influence of the malaria; indeed, at this season it may be laid down as a rule that all Europeans are attacked, to a greater or less degree, in proportion to their acclimatization—those who have been longest resident generally suffering less than new-comers. Indeed, during the autumn of '62, I am not aware that a single white man in the place escaped without an attack of some sort or another, which could be distinctly traced to malarious influence; and in the military hospital the admissions among the troops (black) rose two or three hundred per cent., nearly all the cases being fever of an intermittent type.

Of the fevers themselves there is often the greatest difficulty in diagnosing the exact type; for what will one day present the characteristics of a tertian, will, in a few days, present those of a quotidian; then, perhaps, will suddenly become remittent, and often almost continued in its type. A peculiarity, very often observable, is the total absence of the cold stage, or else it will be so short as hardly to be recognized. Other variations are often met; and one of the commonest, and one which I have myself observed, is the absence

of perspiration, or, in fact, a want of the third stage. When this occurs there is often great enlargement of the spleen, which sometimes, in old cases, takes place to an immense extent; and in one or two rare instances I have observed it so large as to fill up almost the entire abdomen with one solid mass, often accompanied with *anasarca*. In more acute cases it is curious to observe the sudden enlargement, and equally sudden decrease, in the size of the spleen according as the patient is or is not suffering from fever. The debility following these cases is most troublesome, and generally requires a total change of air and scene for recovery.

Another form of fever, and a not uncommon one, goes by the descriptive name of the *broken-bone fever*, so called from the patient having the unpleasant sensation of feeling as if all the shafts of the long bones were being gradually broken across. The other symptoms are generally of a remittent type, though sometimes it occurs in distinct cases of intermittent.

A very remarkable fact, and one difficult of explanation, is, that different persons get attacks of fever with the prevalence of different winds, though, as I have already stated, by far the most frequent time for fever is when the land winds are prevalent; yet I have known instances myself of persons being attacked during the prevalence of the sea breeze, and who expected it regularly at this time.

I shall now touch briefly on the general treatment of these malarious fevers.

In the first outset it is of the most paramount importance that the intestinal tract should be unloaded, for which purpose a full dose of the sulphate of magnesia is, perhaps, the most efficient; but if there is much irritability of stomach, a dose of the pil. hyd., from 5 to 10 grains, or calomel 10 grains, will generally have the desired effect. This should then be followed by quinine, in doses of from 5 to 10 grains, in combination with drachm doses of the sulphate of magnesia to be continued or not as the state of the bowels indicates. I have found that quinine, in some cases, can only be retained when given in the form of a pill, which is easily formed by triturating the quinine well first, and then adding gum water; in this way pills may be made to contain five grains and not be very inconvenient in size.

If the irritability of stomach continue, the simplest and most pleasant remedy is very acid lemonade, which I have often found retained on the stomach when everything else had been rejected. Should there be much tendency to insomnia, a full dose of opium

combined with hyosciamus, at bed-time, will have the desired effect; indeed an opiate in the outset of a paroxysm will often be of greatest use, cutting short the cold stage, and inducing perspiration. It is extraordinary what an immense quantity of quinine can be taken in these malarious fevers without "cinchonism" being induced; and in one case of severe remittent I administered the enormous quantity of 420 grains in 10 days, without affecting the hearing of the patient; indeed he seemed quinine-proof. The only explanation I can give of this fact is, that the more virulent the miasm in the same proportion can larger doses of quinine be given.

I cannot finish this subject without paying a justly-merited tribute to the memory of those medical officers who fell victims to the yellow fever on this coast, during the year 1860, and will, for this purpose, quote the words of the Official Report for 1860:—"During part of the year yellow fever prevailed to a great extent among the civil population of Honduras, but does not appear to have affected the soldiers, no case having been recorded among the white, and only one, which, however, proved fatal, among the black troops. The officers were not so fortunate, one lieutenant and three assistant-surgeons having fallen victims to the disease (Drs. Carberry, Baggot, and Harris). The former died at Belize, two of the latter at Corosal (an outpost), and the other at Ruatan. In consequence of there being no qualified medical practitioners at Corosal, the medical officers gave their professional services to the civil population as well as the military; and, their strength being over-tasked by the amount of professional labour thus devolving upon them, they sank rapidly when attacked by the disease."

I will here briefly mention the treatment adopted by the Spaniards in yellow fever; and, although empirical in its nature, there are so many well-attested cases of recovery, even when given up by the regular practitioners, that it is certainly worthy of note. It is simply a mixture containing about an ounce of castor oil, half an ounce of lime or lemon juice, and half an ounce of common salt, for each dose. I regret that I am unable to state more about it; but, from enquiries made by myself at Corosal, I am satisfied that it *did* effect cures, even in cases where black vomit had set in, and when the patient had been given over after the usual treatment of calomel and quinine.

The other medical diseases are those very commonly met with in the other West India settlements, modified, of course, by climate and season. Exanthemata are rare; but when an epidemic does broke out, it rages with fearful violence among the black population,

who seem to succumb to disease much more readily than Europeans; indeed, when attacked, during an epidemic of cholera, they seem at once to lose all hope, and seldom recover.

I shall now tersely describe those diseases which come under the head of surgical, and which, as I stated previously, are "the result of those reptile and insect pests which render the habitations of Europeans in those climates so dangerous and unpleasant." By far the most important of these are snake-bites; and so wild and uncultivated is the entire face of the country that they are of very frequent occurrence. The poisonous snakes of Honduras are, first, the *crotalus* or rattlesnake, the *tamagass* or *tomagoff*, and the coral or barber's pole. The former is well known, therefore I shall not mention it further than to state that deaths from its bite are rare, probably on account of the provision of nature, that, on being alarmed or angry, it gives notice of its presence by making a peculiar noise, like a child's rattle, and which, in the "awful silence" of those woods, can be heard to a considerable distance. The *tamagass* or *tomagoff* (specimens of which may be seen in the Dublin College of Surgeons) is by far the most frequent cause of death, because its general place of abode is among piles of dead leaves, where it lies coiled up, and is, therefore, apt to be trod on. Its bite is very fatal, death having been known to take place in 20 minutes; but, by a wonderful provision of nature, the antidote is always at hand, in a peculiar kind of vine, known by the name of "guacho," the juice of which is applied to the part and also swallowed, when an immediate remission of the symptoms takes place, of which coma is the most important. The bite of this snake has the peculiar property of generating a kind of purpura in the blood, as, even in slight cases and those which recover, there is generally extensive hemorrhage from all the *mucous* surfaces. Might not this "guacho" be tried, in the form of a tincture, in other countries—in India, for instance—where the bite of the cobra di capello is so frequently fatal? The coral or barber's pole is not by any means so fatal a snake as the *tamagass*, and there are few cases of death from its bite; but still children, or persons in a delicate state of health, would be very likely to succumb. Great numbers of scorpions and centipedes are met with, their sting causing great inflammation and fever for a few days. The Creole treatment consists of rubbing in a tincture of the reptiles themselves, for which purpose they put those they catch into spirits; but I should think that the efficacy consists solely in the spirit, which cools the part and allays inflammation.

The insect life is productive of many annoyances to man, many people suffering to a frightful extent from the bites of mosquitoes, and their smaller, but not less irritating neighbours, the sand-flies. One very remarkable case I may mention, of a lady who got much bitten by the latter, and who, having scratched the bite, converted her hands, arms, and legs into a series of diminutive sores. It chanced that her child had been just vaccinated, and by some means or other she got inoculated from the pustule, when every one of her own sores took on a distinct vaccine appearance, and ran through a regular course, without, however, leaving any pit behind; she herself bore good marks on her arm of previous vaccination.

The beef-worm, which is, I believe, peculiar to tropical America, is a most unpleasant affection. It first appears as a boil on the leg or feet, and sometimes on the back; when, in a few days, a short thick grub emerges or is pulled out, white in colour and quite hard; the sore itself heals up in a few days. It is as yet unknown whence it comes, but is believed to be the larva of some fly. The jigger, or, as the Spaniards call it, "chico" (which is, literally, "small"), is known also by the correct name of *pulex irritans*. In appearance it resembles a small flea, and is generally found where pigs are kept. It buries itself in the skin, where it, for a few days, excites a most intense itching, by some thought to be pleasant, but *de gustibus non disputandum*. In a few days it gradually increases in size; and, if not removed, bursts, when thousands of small ones bury themselves in the surrounding skin, when, if neglected, dangerous and even fatal consequences may result; many negroes lose their toes through not attending to them in time, and, what is more easily removed, dirt. The treatment consists in removing them with some blunt instrument, whole, if possible; but should the bag, as it is called, be broken, then turpentine or tobacco ashes should be rubbed into the part.

In conclusion, I may mention the rarity of deformities among the black population, owing, I suppose, to the children being so constantly in the open air; indeed I do not recollect seeing a single case of curvature of the spine in Honduras, and only one of clubbed foot, which I operated on myself successfully. It is often very difficult to know, in treatment, the strength of the various drugs, many of which, though only but a short time from England, become perfectly inert. Extract of hyosciamus and belladonna, for example, when once exposed to the air, become useless.

As these few notes are altogether from personal observation, I can vouch for their correctness in every way.

ART. VII.—*On Patency of the Foramen Ovale, attended with Cyanosis, and a Faint Murmur Synchronous with the First Sound of the Heart.* By B. W. FOSTER, M.D., Assistant Physician to, and Demonstrator of Pathology in, the Queen's Hospital: Lecturer on Practical Anatomy in Queen's College, Birmingham

EARLY in October last, when seeing my out-patients at the Queen's Hospital, my attention was attracted by two children—a boy and a girl, aged respectively three and two-third years and two years. These children at once forced themselves into observation by the blue duskiness of their faces, the purple colour of their lips, and their heavy, unintelligent expression. On closer examination they were found to be affected in different degrees. The boy, darker in colour, and more stupid in appearance, seemed to take no interest in surrounding objects; he was unable to walk, and had never made efforts at speech. The girl, on the other hand, paler in colour generally, but with equal blueness of the lips, evinced occasional interest in passing objects; and when irritated showed more decided signs of anger; she could walk a little, and sometimes made attempts to speak.

The surface in each was of a dull blue colour, much darker on the fingers and toes, which were, however, *well-formed*. The lips were of a dark purple hue, and the mucous membrane of the mouth equally discoloured. The pupils were dilated and sluggish, the conjunctivæ bluish, with the vessels of the sclerotic large, numerous, and purple. The skin was smooth and soft, but dry, and very cold, especially on the extremities. The tongues were clean, the appetite said to be good, thirst sometimes marked, the bowels usually slightly relaxed, but very much so at present. The stools generally very dark in colour. Micturition not frequent. Urine and feces very often passed in bed.

The thorax of the boy (Cornelius H.), on inspection, presented a remarkably rounded appearance at the upper part, towards the left side, causing his chest to look somewhat barrel-shaped. His breathing was laboured, and attended with very marked action of the diaphragm. Respirations 38 per minute. Resonance on percussion all over front of chest; slight dullness behind at the bases of the lungs. On auscultation, sibilant and mucous rales were heard pretty generally all over the front and back of chest, but more marked posteriorly. The heart's action, though quick, seemed regular; apex beating between fifth and sixth ribs. The area of

cardiac dulness was slightly increased towards the right side. On auscultation, a murmur was heard with the first sound, varying in intensity at different times, and in different positions of the patient. Heard loudest between third and fourth ribs of left side, at their junction with the sternum; most distinctly with the patient placed in the sitting posture, or leaning forwards. The sound was heard as high as the upper margin of the third rib, but was not heard at the apex. Second sound healthy. Pulse 96, weak and small.

The abdomen was found to be tympanitic. The liver was enlarged, could be felt half-an-inch to one inch below the ribs, and stretched across the epigastric region. No perceptible increase of splenic dulness.

In the little girl (Mary Ann H.) the chest was very fairly formed, with only a very slight increase of roundness in the upper part. The breathing, though much more laboured than natural, was easier than in the other case. Percussion sounds resonant all over the lungs, with the exception of the most posterior and inferior portions. Sibilant and mucous rales were heard over front and back of chest. There was no perceptible increase in cardiac dulness. On listening to the sounds of the heart, a faint murmur was heard with the latter part of the first sound, on a level with the lower edge of the third rib, at its junction with the sternum. This murmur varied in intensity, and occasionally gave rather the idea of a muffling of the first sound. It did not extend upwards, and was not to be heard at the apex. When the patient was placed on her left side, or leaning forwards, it was more distinct. The second sound was normal. Action of the heart regular; pulse, 110—small and weak. The abdomen was slightly distended with air. The area of hepatic dulness was increased, extending about one inch lower than natural, and considerably towards the left side. No enlargement of the spleen could be detected.

The mother informed me that the children were both much discoloured at birth; the cyanosis was then, however, more marked in the little girl. They are very liable to paroxysms of passion, during which they become much darker in colour, and their breathing more laboured. They have had occasionally attacks of palpitation and difficult breathing, unconnected with passion. During sleep they often have convulsive twitchings of the limbs. They generally have a cough, and expectorate watery mucus. They are always cold; and, although they have had no particular illness, they have always been low, weakly, and as bad as at present.

The mother's history I found to be as follows:—She was always healthy until a few months before marriage, when she had a bad attack of rheumatic fever; which, from her account, seems to have affected her heart; there is, however, at present no trace of disease in the heart, which I have examined carefully. She married, when 20 years old, her first cousin, then aged 19 years. He has been always healthy and steady. I found no trace of syphilis in his history, nor any signs of disease of the heart. During her first pregnancy she suffered much from palpitation and pain in her left side. She carried the child only eight months; on birth it presented marks of cyanosis, and lived only eight months. Her second pregnancy was attended by no cardiac symptoms, and the child born healthy, is still alive and well. The third child was born with marked blueness of the lips and surface, after a gestation attended with pain in the side, &c. It lived 21 months. The fourth child was born healthy, and is still alive. No cardiac symptoms attended this pregnancy.

The fifth, sixth, and seventh children, at birth, all presented symptoms of marked cyanosis; and these pregnancies were all attended by the heart symptoms. The fifth child lived for six years, but never walked or talked. The blueness of his surface continued, and became more marked towards his end. The cases of the sixth and seventh children have just been related.

The children having been brought on account of the looseness of their bowels, were first treated for this by chalk mixture. This soon remedied it; and the bronchitic symptoms were relieved by a little expectorant mixture. I ordered them also such warm clothing as the mother could procure for them, with nourishing diet, &c. On their third visit I prescribed for them cod-liver oil with the view (as laid down in books*) of increasing their animal heat. Accordingly I made observations of the temperature of different parts of their bodies, and found that, in the case of Cornelius H., the fingers were seldom more than 5° to 8°, the toes 1° to 3° higher than the temperature of the room in which he was placed. In the little girl, the fingers varied from 6° to 9°, the toes from 2° to 4° higher than the surrounding atmosphere. For instance, in a room heated to 58°, I found, from the average of three observations on different days, that the fingers were, in the boy—66°, the toes 61°; in the girl—the fingers 67°, the toes 62°. In the

* *Vide* *Walsh* on Diseases of Heart and Lungs.

mouth the temperature averaged—in the boy, 96° , and in the girl, $97\frac{1}{2}^{\circ}$. In the boy it once fell so low as 90° , while the lowest observation in the girl was 92° .

The treatment with cod-liver oil I found did not benefit the children by producing any marked increase of the temperature of the surface, which on one or two occasions rose 2° on an average in the boy, and 3° in the girl; but at other observations fell to its usual standard. I therefore determined to try another plan of treatment, and I ordered the children four-grain and three-grain doses respectively of the chlorate of potash. This drug I prescribed with the view of oxidizing the blood, by means of the oxygen set free by the decomposition of the salt. When I next saw them their colour was much improved, and their temperature had risen from 5° to 6° . I continued this treatment, giving drachm doses of cod-liver oil in addition, for some two or three weeks with marked benefit. At this period, however, I unfortunately lost sight of the children for some two months; and on their re-appearance I learned that they had been for some time in the workhouse, and had only just been discharged. The privations that the children had undergone previous to the time that they had entered the workhouse had materially weakened them; and even now the extreme poverty of the parents rendered the supply of the bare necessities of life often precarious. In March I determined to try the effects of the new therapeutic agent, peroxide of hydrogen; but as I gave it at first in only small doses—viz., two minims to the younger and four to the elder, I found it not much improvement on the chlorate of potash. I have, however, since given it to the boy in eight-minim doses, three times a-day, with marked benefit. Under this treatment (although the disease has evidently progressed in some respects since he was first presented at the hospital, owing to the unfavourable hygienic conditions in which he has been placed) a marked improvement in his colour has occurred: his breathing has become less laboured, and the temperature has risen very considerably, and has reached, in the upper extremities, almost its natural standard; in the toes the increase is not so great, but is nevertheless considerable,

While I was out of town for some short time in April, the little girl died; and, in my absence, Mr. Thomas Thompson, one of the resident medical officers of the Queen's Hospital, kindly made a *post mortem* examination for me. It appears that for some few days before her death, the child laboured under a sharp attack of

congestive bronchitis, and her colour became much worse. Slight jaundice came on some 48 hours before her death. This, in addition to the cyanosis, caused great discolouration of the surface, making it, as the mother expressed it, "all colours in turn."

On the 22nd of April, the day after her death, Mr. Thompson made the *post mortem* examination.

The surface of the body was livid, but not so dark as it had been during life. Body rather emaciated; no œdema of the lower extremities. The lungs were found to be much congested, and frothy fluid exuded freely when they were cut into. No tubercle was found; the mucous membrane of the bronchi was red and congested. The pleuræ contained in their cavity some few ounces of serous fluid on each side. The pericardium, when opened, was found to contain one ounce and a-half of serous fluid. The heart was normal in appearance and size. Large fibrinous clots were found in the right cavities adherent to the walls. No hypertrophy of the ventricles. Right auricle, if anything, slightly thickened. Left auricle normal. No trace of any disease of the tricuspid, mitral, or semilunar valves was detected by the most careful scrutiny. The orifices of the aorta and pulmonary artery were not to the slightest degree narrowed. The only abnormalities, in short, which could be detected were patency of the foramen ovale, and a rather large-sized Eustachian valve. The communication between the auricles was small, admitting only a large-sized goose-quill; it was due to the want of development in the valve of the foramen ovale. This valve, attached above and below in the left auricle, was deficient in front, leaving an opening of the size mentioned, when the septum of the auricles was in its natural position. Pressure on the valve from the left auricle decreased the aperture of communication, while similar pressure on the right side increased it. The Eustachian valve presented nothing worthy remark beyond its large size. The ductus arteriosus was closed. Abdomen.—Some little serous effusion was found in the cavity. The stomach was pushed towards the left side by the liver, which was considerably enlarged, and of a pale yellowish colour—in spots almost yellowish green. It did not appear fatty; no microscopical examination was made. The spleen, normal in structure, was not enlarged. The other viscera were healthy. The head was not examined.

An attentive perusal of the history of these two children, and a careful consideration of the *post mortem* appearance discovered in the little girl will, I think, suggest to the mind several points of

much interest. The most notable of these I propose to consider briefly under the following heads:—

1. *The symptoms presented by the integumentary system (general symptoms).*
 - (a). The discolouration of the surface.
 - (b). The temperature of the general surface.
2. *The physical signs found on examining the hearts' sounds during life, and the post mortem appearances observed in the case of the younger.*
3. *The conditions presented in each by the nervous system.*
4. *The treatment.*
- 5 *The antecedent history of the children and of the parents.*

1. (a). Discolouration of the surface of the body, such as existed in these cases, and even to a more intense degree, has been observed to occur in many cases without the existence of any lesion admitting of admixture of the arterial and venous blood. Patency of the foramen ovale, and other free communications between the right and left cavities of the heart, have also been recorded in which no blueness of the skin was present. Marked cyanosis has, on the other hand, been frequently observed in cases where the only morbid condition found after death has been either constriction of the orifice of the pulmonary artery, or some other lesion causing great congestion of the venous system.

Armed with these facts, many authors, headed by Morgagni, Louis, Ferrus, and more lately by Dr, Stillè, argue that cyanosis depends, not on the mixture of the venous with the arterial blood, but solely on venous stasis, produced by contraction of the orifice of the pulmonary artery, or other lesion producing similar effects. Other authors*, and with these I am disposed to agree, attribute the discolouration partly to the admixture of the venous and arterial blood, and partly to the congestion of the right cavities of the heart and the systemic venous system, which is the consequence of the lesion permitting the mixture. They at the same time admit that contraction of the orifice of the pulmonary artery, and like

* Gintrac, Hope, Walahe—*Diseases of Heart and Lungs*, 2nd Edition, 1854; Speer, *Medical Times and Gazette*, 1855, p. 412.

causes are, when very marked, to some extent capable of producing general cyanosis.

The intensity of the discolouration is also much greater, as pointed out by Dr. Cheevers, in cases in which the venous congestion has existed since birth, or from a tender age, on account of the probable greater dilatability and capacity of the vessels in early life. The condition of the skin has also a considerable share in modifying the intensity of the colour. In all cases, I believe, where marked cyanosis exists, the skin is generally thin and dry, and the cutaneous exhalation almost, if not entirely, lost. Now, when we consider that a large amount of carbonic acid, and carbon in other forms, is constantly being given off by the skin in health, and that the stoppage of this respiratory function of the surface has been found in animals to produce asphyxia, we can well understand the important part played in the aggravation of the cyanosis by the arrest of this exhalation.

The thinness of the skin also allows the dark blood filling its capillaries to be more apparent.

In applying these facts to the cases before us, we find, I think, that the view which attributes the cyanosis to the admixture of the blood, as well as to the venous stasis, is more consonant with the phenomena observed. In the little girl there was certainly no condition found in the heart, except the patency of the foramen ovale, to produce the lividity of the surface. This lesion, I consider, by permitting the passage of the blood from the right auricle into the left, not only caused the mixture of the blood, but also produced more or less obstruction to the return of the blood from the lungs into the left auricle, and thus caused, secondarily, congestion of the lungs, of the right cavities of the heart, and of the general systemic venous system. The part played by the congestion of the lungs in both these cases was well illustrated by the fact that any increase of this condition was always accompanied by greater discolouration of the surface. It has been observed, also, that as long as a full proportion of blood be circulated through the lungs, although this red blood be afterwards mixed with an equal quantity of black blood in the heart, yet no great discolouration of the skin occurs; but the moment any congestion of the lungs arises to disturb these proportions we have, more or less, marked cyanosis. The condition of the heart in the little boy I am inclined to consider similar to that found in the little girl, with, however, a larger aperture of communication between the auricles.

The state of the skin in both cases has been spoken of as thin and dry—so dry that the mother says the children have seldom, if ever, perspired. This dryness of the surface, although, probably to some extent dependent on the circulation of venous blood in the cutaneous vessels, nevertheless, I think, by stopping the exhalation of the hydro-carbons and carbonic acid through the skin, reacted on its cause, and materially increased the evil. The thinness and transparency of the skin, too, allowed the large and numerous capillaries to be more easily seen.

(b). The temperature of the surface of the body is always found to be considerably lessened in cases where the blood circulates in a venous condition. This we can readily explain by the fact that between the imperfectly oxidized blood and the surrounding textures those chemical changes cannot take place which require for their production blood containing a large proportion of oxygen, and which result in the formation of animal heat. Naturally, then, in cyanosis, where this condition especially obtains, we expect to find the temperature of the surface of the body considerably lower than in health. Hence we find, in the cases before us, a marked want of warmth on the surface. When investigated, the temperature of the fingers in the boy was often found as low as 64° , and the toes 59° , in a room where the thermometer stood at 58° . The palms of the hands and lower part of the fore-arm never showed a higher temperature in the boy than 70° ; and on one occasion the temperature in his mouth fell to 90° . The observations in the little girl accorded well with those in the boy; her surface, however, as might be expected from the less marked cyanosis, being generally a degree or two higher. We have in cholera, under somewhat similar circumstances (*viz.*, the circulation of imperfectly arterialized blood, and the almost complete arrest of the chemical changes accompanying the disintegration of the tissues), the temperature as low as 70° , and sometimes even lower. I cannot, however, recall at present any cases of cyanosis in which the temperature was so low as in the case of Cornelius H. This remarkable deficiency of the power of forming animal heat in these cases is to be accounted for by the conditions under which they laboured, *viz.*:—

1st. The circulation of insufficiently oxidized blood through all the systemic vessels.

2nd. The arrest of the respiratory functions of the skin.

3rd. The mal-nutrition of the children depending on the deficiency of the supply of nutritive food.

The two former of these conditions were the more marked in Cornelius, in whom the temperature was the lower.

2. In remarking upon the physical signs found on examining the sounds of the heart in these cases during life, our attention is arrested by the character, the position, and the variability of the murmur as heard in each. In the boy, the bruit heard synchronous with the first sound was fairly distinct. It was audible chiefly with the latter half of the sound, and was heard loudest over the base of the heart, but was not heard either along the course of the aorta or pulmonary artery. During the whole period of treatment it has always borne a direct proportion to the congestion of the lungs, and to the discolouration of the surface; and since, under the treatment, the circulation through the lungs has been more free, the murmur has become much fainter. In the little girl the bruit was never heard with the same distinctness as in the boy, but gave rather the idea of a muffling and slight prolongation of the first sound; but was always louder in proportion to the pulmonary congestion; and when this condition was least the murmur was inaudible. Its position corresponded with the base of the heart. In my clinical observations to my class, after I had observed the cases for some time, I attributed the production of these murmurs to patency of the foramen ovale. This opinion I also put forward in a paper read before the branch of the British Medical Association here. I was led to this diagnosis by the want of any evidence of the hypertrophy of the right ventricle, by the fact of the murmur not being traceable along the great vessels, and by the faintness and by the occasional absence of the bruit, all of which conditions I conceived to be more or less incompatible with any constriction of the orifice of the pulmonary artery, the usual source of murmurs in these cases. Deficiency in the septum of the ventricles would, I considered, have caused the blood to flow from the left to the right cavity, on account of the greater power of the left ventricle; and any other considerable malformation of the heart would, I presumed, have caused much greater irregularity in its action. My views, as thus expressed, were singularly confirmed on examining the heart of the little girl after death. Most carefully have I, on several occasions, investigated the condition of all the valves and apertures, with the constant result of finding no other abnormal condition to account for the murmur but the patency of the foramen ovale. The perusal of Dr. Markham's case (*vide Med. Times and Gazette*, April 4, 1857), which presented, in the condition of the foramen ovale, some

resemblance to the state found in the heart of the little girl, confirms me in the opinion that the modification of the first sound in her case was caused by a murmur generated at the patent foramen. Let us consider briefly the conditions in this case favouring the production of such a murmur. We have a valve stretching across the foramen, and attached above and below in the left auricle, leaving an aperture, elliptical in shape, between its margin and the circumference of the opening. This aperture would be increased by any pressure from the right side, and proportionally decreased by a similar condition in the left auricle; the current of any flow of blood, therefore, would be rather from the right to the left cavity. The unusually developed condition of the Eustachian valve in this case, would, I conceive, direct the current of the blood from the inferior vena cava towards the foramen ovale, and this flow, impinging upon the body of the valve, would increase the aperture, and cause the valve to assume that tense condition in which vibrations of its margin would be produced by the passage of the blood from the right to the left auricle. Any congestion of the right cavities would also strengthen this condition by dilating the opening still more, and thus favouring the increase in intensity of the murmur by the flow of a stronger current of blood over the vibratile valve, while the opposite condition of the right cavities would diminish it. The occurrence of the murmur, too, during the diastole of the auricles, and, therefore, synchronously with the systole of the ventricles, supports this view, as pointed out by Dr. Markham. From these considerations, and also from the fact that repeated and careful examinations of the heart disclosed no other morbid condition capable of producing the bruit, I am constrained to agree with Dr. Markham in supposing that patency of the foramen ovale can, under certain conditions, produce a murmur with the first sound. One of the conditions present in this case, and on which I am inclined to lay some stress, being the existence of a well-developed Eustachian valve, by which the current is directed towards the patent foramen; the other, as pointed out in Dr. Markham's paper, being the existence of a valve connected with the inter-auricular opening, which, by its tension and vibrations, generates the sound as the stream passes over its margin.

The condition of the liver, as found on *post mortem* examination, is, I consider, worthy of remark, as showing the efforts made by this viscus to supplementalize the action of the lungs. In all the lower animals a pretty constant relation exists between the activity

of the lung functions and the size of the liver. Wherever the lungs are weak, and fail to decarbonize the blood, we find a proportionate increase in the size and activity of the liver. In this case, from the defect of the heart's formation, and in consequence of this, from the inability of the lungs to perform their duty thoroughly, we have through the circulation of venous blood in the systemic vessels, an increased amount of decarbonization to be effected by the liver, and therefore the hypertrophy. The yellowish-green colour of the organ was due, I think, to its activity, and reminded me of the peculiar colour, described by Weber, as seen in the livers of frogs during the season of their greatest activity. The dark colour of the stools, and the occasional diarrhea to which the children were subject, were due, I believe, to the large secretion of bile; and the jaundice observed in the little girl, before death, was owing to the arrest of this secretion from the failure of the liver to respond to the extra call made upon it during the bronchitic attack.

3. The symptoms presented by the nervous system in cases of cyanosis are not often so well marked as in these cases, according to many observers; some authors,* indeed, go so far as to assert that there is usually no impairment of the intellect. In the cases before us, the dull and stupid expression of the countenances of the children was remarkable, and the diminished intelligence was found to be much greater in the case of the elder, in whom the cyanosis was the more intense; while in the little girl, whose colour was never so bad, the intellectual development was much higher. As the children thus born (*i.e.*, cyanotic) were, according to the mother, very stupid; and the one who lived to be six years old never spoke or walked. From what we know of the effects produced by the circulation of venous blood through the brain, the want of intelligence, as exhibited by these children, does not appear unaccountable. Sir Benjamin Brodie, in his *Psychological Inquiries*,* says, when speaking of the circulation of venous blood in the brain:—"The dark-coloured blood, if it has once been transmitted to the brain, even for two or three minutes, leaves an impression on it, from which it may not recover for half an hour, or even longer." And again, in the next sentence but one, he says:—"In fact, the dark-coloured blood transmitted to the brain operates as a narcotic poison." This recalls to our mind the fact, that Dr. Snow has

* *Vide* Fuller on Diseases of the Chest, article "Cyanosis."

† Page 122, Second Edition. 1855.

down the great law that narcotism is but suspended oxidation. It is, from these considerations, natural to suppose that the constant circulation of blood, deficient in oxygen, through the brain, must materially affect the intellectual development. In a case, however, published by Dr. Richardson (*vide Medical Times and Gazette*, December 22, 1860), the intellect was remarkably clear. From a perusal of this case, I am rather led to think that the mental clearness was due to the fact that there had been no great interference, during the greater part of life, with the functions of the lungs, and that, therefore, the exhalation of carbonic acid and the absorption of oxygen took place freely. When these conditions are not fulfilled I believe that more or less disturbance of the intelligence will always result; and that in all cases of marked cyanosis the intellectual powers will always bear a strict proportion to the quantity of oxidized blood which reaches the brain. The irritability of the temper we may, I think, attribute, with justice, to the disturbance of the brain functions, consequent on the circulation of venous blood; and to the same cause, acting on the cerebro-spinal system, is to be placed, partly, the inability exhibited by the little boy to walk, and not solely to malnutrition of the muscles. The other symptom—*viz.*, the twitchings of the muscles—which so often disturbed the sleep of these children, we may fairly attribute to the circulation of black blood through the muscles; muscular spasms being known to frequently occur under such conditions.

4. *The Treatment.*—In all systematic works which devote a chapter to this peculiar disease, the merely palliative character which the treatment is obliged to assume, on account of the incurable nature of the malformation, is justly noticed. But after the recommendation of such remedies as are likely to benefit the paroxysms of difficult breathing, palpitation, &c., we are told that the temperature of the surface must be kept up by warm clothing, friction, &c., and that of the body generally elevated by the free administration of nutritious food, “oil, fat, gum, and other aliments of respiration.”^a In the early treatment of these cases I followed the principles generally laid down, but failed to attain any satisfactory result with regard to the increase of the temperature of the surface. This is not, I think, to be wondered at. For I cannot see how any benefit is to be derived from the addition of carbonized materials to blood already laden with carbonic acid; and in a system where the congested

^a *Vide* *Walsh, Diseases of Lungs and Heart*, page 521. (Ed. 1851).

state of the lungs, consequent on the malformation, prevents the organs (already overworked) from making any extra effort to obtain for the blood that amount of oxygen essential for the production of heat by the combustion of such carbonized food. Such treatment can afford no benefit; and unless we can at the same time guarantee an equivalent increase of oxygen, the additional carbon only aggravates the evil. We cannot look to the lungs to absorb for us their extra quantity of oxygen from the air, and, therefore, I submit, we must either feed the body with this element, by affording to the lungs air containing a larger amount of oxygen than exists in the atmosphere, or supply it through the stomach, by the administration of such drugs as will afford, by their decomposition during digestion free oxygen to the blood. To use a homely illustration—the smouldering embers in the fireplace of an ill ventilated room are soon extinguished by the free addition of fuel; but by the addition of fuel in small quantities, and the admission of a copious draught of air, the dying ashes are soon kindled into a genial blaze. I adopted the latter of the two alternatives pointed out, in my treatment of these children; and at first tried to fulfil the indication by the administration of chlorate of potash, hoping that by the decomposition of the salt its large proportion of oxygen would be absorbed by the blood. The success which attended the use of this drug was satisfactory; and I continued it for some time, during which period the colour improved, and the temperature rose several degrees. This success confirmed me in the opinion that this was the rational treatment, and induced me to substitute for the chlorate of potash a more powerful oxidizing agent, the peroxide of hydrogen (HO_2), introduced by Dr. B. W. Richardson (of London). At first, as I gave this remedy in small doses, it acted little better than the chlorate; but from the moment that I gave it to the boy in full doses, his appearance changed. The colour of the face, which was before very cyanotic, became but slightly darker than natural and his cheeks assumed, in place of a violet blue colour, a dusky reddish hue. His eyes, that before were dull, heavy, and expressionless, cleared and brightened, and followed with evident interest the movements of a stranger, and at once fixed on attractive objects. His breathing, before laboured, became much easier; his appetite improved; and the twitchings of his muscles ceased. The skin, before always dry, became soft, and on the body frequently moist. And, above all, the temperature rose to be, on an average in the fingers, 82° ; in the toes, 73° ; and, in the groin, 91° : on on

occasion the fingers were 89° . All the observations were taken in rooms varying in temperature from 63° to 64° . And when the mother, from domestic causes, was prevented bringing the child to the hospital, and the administration of the remedies ceased, the child relapsed almost to its former condition. The drug is, however, now constantly given in eight minim doses, three times a day, with a drachm of cod-liver oil twice a day, with the best effects. The child has improved both physically and mentally. When I last saw him (June 6th) he was playing with some toys, in which he evidently took a lively interest. The cyanosis was scarcely perceptible, the only peculiarity striking the observer being a slight blueness of the lips. His mother told me that he had made attempts, of late, to speak; and he can now utter, with tolerable distinctness, two or three words. His stools are much better in colour. His appetite is good. The liver still continues enlarged and active. The paroxysms of passion still often recur; but his colour is, by no means, as dark during their continuance. The temperature of the surface still continues to average the same as stated above—the only parts ever feeling cold being the toes. The continuance of the administration of the remedy will, I think, be attended with still further improvement in the child's state, as the blood becomes more normal in its character and circulating through the different organs in a more oxidized state, enables them to perform their functions more naturally, and, therefore, more perfectly. The great success which has attended this treatment, and the retrogression in the child's state which marked its temporary cessation, are, I think, the best proofs I can offer of its physiological correctness. The peroxide of hydrogen will, I doubt not, prove a valuable addition to our list of *Materia Medica*. Its action in this case leads me to rank it as one of the best, if not the best, oxidizing agent we possess for internal administration; and I believe its use will be found to be attended with great benefit in all diseases marked by deficient oxidation.

5. The antecedent history of the children and of the parents affords many interesting and singular peculiarities. The more striking of these I will at present merely enumerate; but on some future occasion I trust to dwell on them more fully. They are:—

(a). The near relationship existing between the parents—first cousins.

(b). The rheumatic fever from which the mother suffered shortly before her marriage, and which probably slightly affected her heart.

- (c). The want of any evidence of cardiac disease in either parent.
 - (d). The peculiar cardiac symptoms which attended the gestation of each cyanotic child.
 - (e). The number of children born with cyanosis—five out of seven.
 - (f). The production of two healthy children between the diseased ones—viz., the second and fourth—both still alive and free from all signs of malformation or disease of the heart.
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ART. VIII.—*Some Account of the Datura Tatula, and its Use in Asthma.* By JOHN F. M'VEAGH, M.D., L.K.Q.C.P.

As I believe I was the first medical man in this city to introduce the above plant into use, I am anxious to bring before my professional brethren what I know about it; especially as from the limited experience I have had of it, and from its success in the hands of others abroad, I am inclined to believe that it is a remedy of great efficacy in cases of asthma and chronic bronchitis, and worthy of the attention of our profession. The first time that I ever heard of the *datura tatula* was during an attendance I had, in the year 1850, on the late Lord Dunsany. He was attending a public meeting, in the March of that year, in the Rotundo, and was engaged to speak upon a subject of interest to him; when, owing to the excitement and fatigue consequent thereon, he was seized with a most fearful attack of asthma—to which he was subject—and was with difficulty conveyed to his hotel, in Sackville-street, where I saw him soon after. I never witnessed a more severe attack; and the paroxysms of orthopnea were so violent that I expected every moment to see him asphyxiated. Having subdued the most urgent symptoms by pediluvia, sinapisms, and some antispasmodic, he was enabled to speak to me, and the first remark he made was, that if I had no objection, he had a remedy at hand, of great power, which would quickly relieve him. I, of course, assented, and his valet brought him a pipe, filled with the above-named ingredient. He had scarcely smoked for more than a minute or so, when the dyspnea began to abate; and in about ten minutes more he was relieved wonderfully. He informed me then that the plant he smoked was the *datura tatula*, and that the bruised seeds and dried herb were equally mixed for the smoking ingredients. He had used it for

years, with the most perfect success in allaying the spasms. The beneficial effects could only be but temporary with him, as he laboured under cirrhosis of one lung, and valvular disease; but certainly the inhalation had the most magical effect I ever witnessed; and had his lordship's case been one of uncomplicated asthma no doubt the remedy would have proved a specific. On enquiry, he informed me that he procured the plant from Malta, where it grew abundantly in the governor's garden; and he kindly gave me some of the seeds, which I forwarded to the then curator of the Botanic Gardens. Unfortunately they were mislaid, and his lordship dying about two years afterwards, I had no opportunity of procuring another supply. Having frequently failed in relieving subsequent cases of asthma with the usual remedies, it occurred to me that I would try and procure the *datura tatula*. I applied, therefore, to Messrs. Bewley and Evans, and they obtained it from their agents in London, where also the virtues of the remedy were becoming known. I also wrote to the Right Hon. More O'Farrell, M.P., who, having been Governor at Malta, would most likely know something of so valuable a remedy. He most kindly informed me that the *datura tatula* was a remedy much prized there in cases of asthma—successful in some cases, and in others not." I suspect the latter were not cases of pure asthma; hence the failure, to a certain extent, of the remedy. I resolved, however, to give it a fair trial in any cases of asthma or chronic bronchitis that might come under my notice; and, in a few cases that I have already used it in, the results have been most satisfactory.

The first case was a clergyman in this city, liable, for years, to most severe attacks of asthma, in which the usual remedies were of little avail, until after many days of suffering. I induced him to give the *datura tatula* a trial; and the last time I saw him he informed me, with great pleasure, that smoking the plant, in the manner I directed him, had completely cured him of a threatened paroxysm. He had often smoked stramonium, but with no relief to his suffering. He takes also the extract of the *tatula* as a prophylactic, at bed-time. The next case was that of a gentleman in the county Roscommon, who has been a martyr, for years, to attacks of pure asthma, and who tried in vain to procure some remedy to ward off the paroxysms. He now smokes the *tatula* whenever the fit is impending, with perfect relief. Another case of chronic bronchitis has been thoroughly benefited by the extract, in a pill, at night, and some of the tincture added to an ordinary expectorant mixture.

These cases, even few as they are, give me every reason to hope that in the *datura tatula* we have found a valuable remedy in cases of asthma, and that it will be a useful adjunct to our *Materia Medica*.

No doubt, cases of uncomplicated asthma are rare; but even in complicated cases, as in that I have first mentioned, it proved a most valuable agent in affording relief. Its action upon the human system resembles stramonium, in some degree; but it is more antispasmodic, and less narcotic, than the former, and rarely causes headache, or leaves any unpleasant dryness of the fauces, or sense of constriction in the pharynx, as the stramonium so constantly does. Messrs. Bewley & Evans have prepared, according to my directions, the ingredients for smoking, also an extract and a tincture. The extract is made with coarsely-pounded *tatula*, with cold water, exhausted by percolation, and the liquor evaporated to the usual consistence by steam heat. The dose is from half-a-grain to one and a-half grain. The tincture is made by digesting, for seven days, one part of powdered herb in eight parts of proof spirit. Dose—20 to 60 minims. The tincture, diluted with distilled water, remains transparent. The solution precipitates greyish yellow with tincture of galls and ferrocyanide of potassium, becomes of an inky colour with solution of perchloride of iron, and precipitates whitish with nitrate of silver. It does not precipitate with perchloride of mercury or acetate of lead. In a preliminary analysis of the plant, made by my friend, Dr. Aldridge, he finds that it contains an alkaloid, tannin, and, probably, some chloride. The botanical history of the plant will be found in Pariera's *Materia Medica*; but he makes no comment upon its utility.

ART. IX.—*A Short Description of a Mirror, by means of which the Larynx of the Examinee may be Demonstrated either to a Colleague, in Consultation, or to a Class in Hospital.* By PHILIP C. SMYLY, M.D., T.C.D.; Surgeon to the Meath Hospital.

It is with diffidence I venture to make any addition to the very complete instrument introduced into general practice by my friend and instructor, Professor Czermak. Ever since I first introduced the laryngoscope into this country, in 1860, I felt the difficulty of demonstrating the larynx of the patient to a third person not skilled in the use of the instrument.

A considerable amount of practice is required, not only to throw

a steady light into the pharynx, but a certain delicacy of touch in introducing the faucial mirror so as not to produce nausea. This is only to be attained by constant practice. It is a great advantage, in consultation, to show the larynx distinctly. In the ordinary method, when the examiner has a full view of the vocal cords of the examinee, he calls upon his colleague to view the parts; who, when he places his head beside that of the examiner, only gets a partial view—a portion of the epiglottis, one arytenoid, and, perhaps, a vocal cord. In endeavouring to see more, he pushes the examiner's head, so as to displace the light, or shakes his hand, so as to bring on nausea. Many other inconveniences will occur to the mind of the practical laryngoscopist which I shall not here allude to.

My addition consists of a simple square piece of very good plate glass mirror, set in brass, like Weiss' concave mirror. A second split tube is soldered on close to the tube which exists on all Weiss' frontal bands, and a brass rod, the ends of which are bent in opposite directions, at an angle of 45° .

The mode of using this glass is as follows:—The laryngoscope is fixed, as usual, before either the left or right eye. The brass rod is fixed in the tube, beside that which holds the rod supporting the reflector; and my square glass is fixed on the other end, as is very well shown in the engraving.



As the angles of incidence and reflection are equal, the mirror may be turned to such an angle that the second examiner may be placed at such a distance from both the patient and operator that his presence cannot disturb the steadiness of either. The view the second examiner has of the larynx in the square mirror is not inverted, being twice reflected. The right vocal cord of the examinee is to the right hand side of the examiner number two.

The glass employed in the manufacture must be as perfect and parallel as possible, so that the loss of light may be a minimum.

In conclusion, I may add that the additional weight of the square glass, when made in the artistic manner in which mine has been made, by Messrs. Spencer and Son, of Aungier-street, Dublin, is scarcely perceptible.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Studies in Physiology and Medicine. By the late ROBERT JAMES GRAVES, F.R.S., Professor of the Institutes of Medicine in the School of Physic in Ireland. Edited by WILLIAM STOKES, Regius Professor of Physic in the University of Dublin. London: J. Churchill and Sons. 1863. 8vo., pp. 428.

THIS volume, a memorial of Graves, is, by his brother and by the editor, dedicated to Professor Trousseau, Member of the Imperial Academy of Medicine, Commander of the Legion of Honour. The papers contained in it have been selected from many which, from time to time, have appeared in various periodicals; those only which bear on physiology and medicine having been reproduced; and, while it is not intended that they should be taken as setting forth the state of physiology in our time, it is thought that these remains of Graves have an especial value, as showing how the mind of a great physician dealt with physiology in its true relations to medicine.

The volume is prefaced by a sketch of the life and labours of Graves, from the pen of the editor; and, in writing this memoir of "him who was once his teacher, then his colleague, and ever his friend," Dr. Stokes but obeys the promptings of a desire, which has long been present to him, that the members of his profession should have a more intimate knowledge of one who was so worthy of being enrolled among the benefactors of medicine. The great work on *Clinical Medicine*, with which Dr. Graves' name is so honourably connected, is, no doubt, amply sufficient to entitle the name of the author to a high position on the roll of fame; but, great as the scope of this work is, and though it shows evidence of successful labour so multitudinous, it does not, nor, from its nature, could it, convey a fitting idea of the varied stores of knowledge laid up in

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the mind of its author, whose life and works—whose powers of observation—whose energy and faithfulness in teaching—mark says his biographer, an epoch in British medicine.

In fulfilling his task of biographer, Dr. Stokes has, above all things, been anxious to avoid excessive eulogium; to some it may almost appear that he has, in his desire to shun this too common fault, fallen into the opposite extreme; but, at all events, all will coincide with him in saying that the life and labours of Graves show, in an admirable manner, how the past can be made to illuminate the works of the present time; for his mind, while it mastered all modern discoveries in physiology and in medicine, still remained imbued with that old strength and breadth of view, so characteristic of the fathers of medicine—of Sydenham, Fothergill, Haygarth, Huxham, Cullen, and Gregory; and among Continental writers, of John Peter Frank. And thus he had a rare privilege of leading the advance of the modern school of practical medicine in this country, while, in his practice and in his teaching, he never ceased to venerate and be influenced by the thoughtful labour and the wisdom of the past.

Descended from Colonel Graves, an officer in the Protector's cavalry, who acquired large estates in the county of Limerick, Dr. Graves was the third and youngest son of Richard Graves, D.D. Senior Fellow of Trinity College, and Regius Professor of Divinity in the University of Dublin, his mother being the daughter of another Fellow of Trinity College. With his brothers, he passed through the University with great distinction—each of them obtaining, at the degree examinations of three successive years, the gold medal in science and in classics, then the highest distinction obtainable by students. Dr. Graves' professional education was well worthy of his early training. In 1818 the degree of Bachelor of Medicine in the University of Dublin was conferred on him, and soon afterwards he proceeded to London, where he studied for some time; then three years were employed in visiting the schools of Berlin, Göttingen, Vienna, Copenhagen, and those of France and Italy; after which he resided for some months in Edinburgh, before returning to Dublin. In this large and truly liberal education, which embraced the training of the school, the university, and the world, we can discover, in part, the foundations of his subsequent eminence. He made himself intimate with the recent discoveries and modes of thinking in every great school of medicine, whether abroad or at home, and formed friendships with the leading

physiologists and physicians of Europe, with many of whom he kept up a correspondence during his life. Dr. Stokes narrates some incidents that occurred during this period which exhibit traits so characteristic of the man that we must extract them in full:—

“His power of acquiring languages was remarkable. On one occasion, when on a pedestrian journey in Austria, having neglected to carry his passport, he was arrested as a spy, and thrown into a dungeon. His assertion that he was a British subject was disbelieved by the authorities, who insisted that no Englishman could speak German as he did! In his imprisonment, which lasted for ten days, he suffered great privations.

“During his sojourn in Italy, he became acquainted with Turner, the celebrated landscape painter, and was his companion in many journeys. He often spoke of the pleasure he enjoyed during the sketching tours taken in company with the great painter. The history of his first meeting with Turner, may be here related:—

“Graves was travelling by diligence, when, in one of the post stations on the northern side of the Alps, a person took a seat beside him, whose appearance was that of the mate of a trading vessel. At first, no conversation took place between them, but Graves' curiosity was soon awakened by seeing his fellow-traveller take from his pocket a note-book, across the pages of which his hand, from time to time, passed with the rapidity of lightning. Overcome at length by curiosity, and under the impression that his companion was perhaps insane, Graves watched him more attentively, and discovered that this untiring hand had been faithfully noting down the forms of the clouds which crossed the sky as they drove along, and concluded that the stranger was no common man. Shortly afterwards, the travellers entered into conversation, and the acquaintance thus formed soon became more intimate. They journeyed together, remaining for some time in Florence, and then proceeding to Rome. Graves was himself possessed of no mean artistic powers, and his sketches from nature are full of vigour and truth. He was one of the few men in whose company Turner is known to have worked. The writer has heard him describe how, having fixed on a point of view, he and his companion sat down, side by side to their work. ‘I used to work away,’ he said, ‘for an hour or more, and put down as well as I could every object in the scene before me, copying form and colour, perhaps as faithfully as was possible in the time. When our work was done, and we compared drawings, the difference was strange; I assure you there was not a single stroke in Turner's drawing that I could see like nature; not a line nor an object, and yet my work was worthless in comparison with his. The whole glory of the scene was there.’ The tone and fire with which Graves uttered these last few words spoke volumes for his sympathy with, and his admiration of the great painter of nature.

"At times, however, when they had fixed upon a point of view, to which they returned day after day, Turner would often content himself on the first day, with making one careful outline of the scene. And then while Graves worked on, Turner would remain apparently doing nothing till at some particular moment, perhaps on the third day, he would exclaim, 'There it is!' and seizing his colours, work rapidly till he had noted down the peculiar effect he wished to fix in his memory. It is a curious fact, that these two remarkable men lived and travelled together for months, without either of them inquiring the name of his comrade and it was not till they reached Rome, that Graves learned that his companion was the great artist.

"After leaving Rome he visited Sicily, and in connexion with this excursion, the following incident is worthy of being recorded, as giving an insight into his character, and as preparing us to estimate one of his features, for which in after-life he was justly distinguished, namely, his promptness and vigour of action, when confronted with difficulty and danger.

"He had embarked at Genoa, in a brig bound for Sicily. The captain and crew were Sicilians, and there were no passengers on board but himself and a poor Spaniard, who became his companion and messmate. Soon after quitting the land, they encountered a terrific gale from the north-east, with which the ill-found, ill-manned, and badly-commanded vessel, soon showed herself unable to contend. The sails were blown away or torn, the vessel was leaking, the pumps choked, and the crew in despair gave up the attempt to work the ship. At this juncture Graves was lying on a couch in the cabin, suffering under a painful malady when his fellow passenger entered, and in terror announced to him that the crew were about to forsake the vessel; that they were then in the very act of getting out the boat, and that he had heard them say that the two passengers were to be left to their fate. Springing from his couch Graves flung on his cloak, and, looking through the cabin, found a heavy axe lying on the floor. This he seized, and concealing it under his cloak he gained the deck, and found that the captain and crew had nearly succeeded in getting the boat free from its lashings. He addressed the captain, declaring his opinion that the boat could not live in such a sea and that the attempt to launch it was madness. He was answered by a execration, and told that it was a matter with which he had nothing to do, for that he and his companion should remain behind. 'Then' exclaimed he, 'if that be the case, let us all be drowned together. It is a pity to part good company;' as he spoke, he struck the sides of the boat with his axe, and destroyed it irreparably. The captain drew his dagger, and would have rushed upon him, but quailed before the cool, erect, and armed man. Graves then virtually took command of the ship. He had the suckers of the pumps withdrawn, and furnished, b

cutting from his own boots, the leather necessary to repair the valves, the crew returned to their duties, the leak was gained, and the vessel saved."

On his return to Dublin, in 1821, Graves at once took a leading position in the profession, and in general society. His biographer thus describes his personal appearance and character at this period; a description the truth of which will be recognized even by those who only knew him in his later years:—

"Nature had been bountiful to him: he was tall in stature, of dark complexion, and with noble and expressive features. In conversation he possessed a power rarely met with; for while he had the faculty of displaying an accurate and singularly varied knowledge without a shade of egotism, he was able to correct error without an approach to offence. From this may be learned one source of that power he so possessed of influencing the minds of men; for there is nothing more captivating than the conversation of one who, though by nature proud, has trained himself to be mentally humble.

"He had at once a warm and a sensitive heart, and ever showed lasting and therefore genuine gratitude for the smallest kindness. Loving truth for its own sake, he held in unconcealed abhorrence all attempts to sully or distort it; and he never withheld or withdrew his friendship from any, even those below him in education and social rank, if he found in them the qualities which he loved, and which he never omitted to honour.

"It is to be observed that as his mind was open and unsuspicious, he, occasionally, fell into the error of thinking aloud without considering the nature of his audience, and of letting his wit play more freely, and his sarcasm, when defending the right, cut more deeply than caution might dictate.

"This outline of the character of Graves at the commencement of his public life, will throw light on many matters relating to his subsequent career, and it is important to note that the world never spoiled him, so that he preserved most of the youthful, and all the kindly and better qualities of his mind up to the hour of his death. His friends became bound to him with ties stronger than those of relationship, and thus he was enabled to take with a 'frolic welcome' the occasional and natural hostility of the bad, the presuming, or the indirect man."

Another biographer has borne testimony to his powers as a lecturer, in terms equally laudatory with those we have just quoted from Dr. Stokes:—"As a Lecturer," he says, "Professor Graves was endowed with peculiar capabilities. To a remarkable person

he added great powers of arresting attention in the very outset of his discourse, which, by an almost startling impressiveness, he maintained throughout. His ideas were conveyed in a bold, fluent and classic style. In his language he was always forcible and elegant; and though frequently eloquent, he never sacrificed his subject for flowers of rhetoric, or lost sight of his text in the force of a metaphor; for, whether discussing the investigations of others or detailing the results of his own enquiries, he ever manifested the same critical acumen, the same powers of the most piercing analysis."^a The same writer claims for Graves that he was "the first great medical teacher we have had in this country;" and that he laid the foundation of the high reputation possessed by Dublin as a school of practical medicine, by his introduction of the system of clinical teaching. "This just celebrity," he says, "was brought about by the advantages offered to the student (for the first time in this country) to study disease, not from the well-devised oration in the lecture-room, or the printed, and, perhaps, graphic description of it in his closet; but by observing all its forms, changes, and symptoms at the bed-side; by having a patient submitted to his care, under the direction of the physician—the previous history of whose case it was his business to inquire into, and every step of whose malady he was required to note with accuracy, and at a daily examination, before his class, to detail to his critical examiner. By this system was the student not only afforded an opportunity of observing and learning disease, but of testing his own quantity of information and practical knowledge."

At this period the Irish School of Medicine was, as Dr. Stokes remarks, in an unproductive state, its energies being confined to the mere teaching, in the theatre, of anatomy and surgery, and even of medicine. Doubtless many circumstances contributed to this, of which not the least influential was the state of collapse that ensued on the accomplishment of the Union; for the history of the previous years is, as has been shown by Mr. Wilde,^b full of evidences of original and independent research, and of vigorous efforts for the furtherance, not only of medicine, but of science generally. But

^a See "Our Portrait Gallery, No. XXVII." *Dublin University Magazine*, February 1842. This sketch of Graves' life and labours appeared during his lifetime; and we have reason to believe was written by Mr. Wilde. It is accompanied by a likeness by Gray.

^b See *The History of Medical Periodic Literature in Ireland*, in the First Volume of our present series.

the war with France, as Dr. Stokes very justly remarks, also influenced us injuriously; for, by increasing the demand for military and naval surgeons, it rendered it necessary to qualify young men, by special instruction in anatomy and surgery, to enter the public service in the shortest possible time. For this end the facility of obtaining subjects for dissection in Dublin gave a great opportunity, but it became little more than a school of elementary anatomy, of book medicine, and book surgery; and, although it possessed teachers of excellent calibre, they had but a local reputation. Clinical investigation and clinical teaching nearly ceased, and could scarcely be said to exist; and so the great path to the advancement of the healing art was almost untrodden, and the minds of our young men were unawakened to the value and necessity of original work. But, at about the time of Graves' return to Dublin, the dawning of better days began to appear. A new generation was coming forward; the war was over, and a general movement in most departments of mental culture commenced amongst us—a movement giving good hope for the future of the country.

The modifications of the University system, introduced by Dr. Lloyd, Provost of Trinity College, gave an impetus to collegiate study, and spread a new influence over the country, as evidenced by the general advance in mathematical, physical, and natural sciences; and in the studies of literature and archeology. Medicine shared in the movement. Cheyne, a Scotchman—but so long resident in Dublin as to be identified with the Irish school—associating with himself the leading members of the profession of medicine and surgery in Dublin, commenced, in 1817, the publication of the *Dublin Hospital Reports*; and about the same period the Fellows and Licentiates of the College of Physicians formed themselves into an association, chiefly with a view to the improvement of pathological science, and commenced to publish their transactions, simultaneously with the *Hospital Reports*—each of them extending to five volumes, and inferior to no publication of a like nature; both of which became merged into our own *Journal*, which is, in fact, their lineal descendant. The first volume of the *Hospital Reports* was edited by Drs. Cheyne, Ed. Percival, and Colles, and Todd; the remaining, till the fifth, by Colles and Cheyne, and the fifth, which appeared in 1830, by Graves. A new series of the *Dublin Medical Transactions* was commenced in this year, but only one volume of it appeared; and in 1832 the first number of our own *Journal* appeared, at first, under the editorship of

Mr., now Sir Robert Kane, but almost immediately afterwards Drs. Graves and Stokes were associated with him as its editors. To them, in 1834, Sir Robert, on obtaining the Professorship of Natural Philosophy in the Dublin Society, resigned its management, and they continued to conduct it till 1842—one of Graves' labours that Dr. Stokes has omitted to record.

Soon after Graves began to practise in Dublin, he took an active part in the founding of the new School of Medicine in Park-street; Dr. Stokes gives the date as 1821, and says that in the same year he was elected physician to the Meath Hospital; but we believe the Park-street School was not founded till 1824.*

As physician to the Meath Hospital, Graves applied himself to the improvement of clinical teaching, and thereby laid the foundation of the eminence which the Irish School of Medicine has since attained. In the first introductory lecture that he delivered at the hospital, and from which Dr. Stokes quotes largely, he discussed the subject of clinical teaching in a manner so comprehensive—with an apprehension of the necessities of the student, and of the responsibilities of the teacher, so clear—and with a consideration for the feelings of the patients so just, that, notwithstanding all that has since been written on the art of teaching, it has never yet been equalled. His analysis of the methods of teaching adopted in other schools, while it shows that when travelling he was not only an industrious but keen observer, conveys an amount of information on the subject the value of which cannot be too highly estimated. As a teacher he was careful to carry out the principles he himself laid down; the student was taught to teach himself, was made familiar with bed-side medicine and the “ways of the sick,” was led to exercise his powers of perception, to train his mind to reason rightly on the phenomena of disease, and to learn the duty, as well as taste the pleasure, of original work.

* We find the following names among the teachers in this school from its foundation :—

On Anatomy.—Jacob, Hart, Carlile, Alcock, George Greene, Denham, Hill, Young, G. Stokes, Wilkin, M'Donnell, Sawyer, Kidd.

On Surgery.—Wilmot, Cusack, Porter, Houston, Fleming, J. Hamilton.

On Medicine.—Marsh, Graves, Stokes, Duncan.

On Chemistry.—Apjohn, Williams, Gregory of Edinburgh, W. Colles, Aldridge, Simpson.

On Materia Medica.—Osborne, Evanson, M'Dowell, Banks, Eades, Drury.

On Midwifery.—S. Cusack, Maunsell, Beatty, Isdell.

On Medical Jurisprudence.—Adrien, Geoghegan, Reid, G. Stokes, Forde.

On Medical Botany.—Corbet.

On Diseases of the Eye and Ear.—Wilde.

"The impassible gulf which in that aristocratic era lay between the student and his so-called teacher, was by Graves made to disappear, and for the first time in these countries was the pupil brought into a free and full and friendly contact with a mind so richly stored that it might be taken as an exponent of the actual state of medicine at the time; a mind ardent in research, fruitful in discovery, and yet no miser of its wealth, but ever ready to pour forth its riches to all, and for all who were ready to receive them.

"The writer will be borne out in what he has now said by those who remember the impetus which the teaching of Graves, at the Meath Hospital, gave to clinical study in Dublin. In the opinion of the world the great sources of success in a teacher are his powers of exposition, and his extent of knowledge combined with the gift of eloquence; but this view of the matter is too limited. All these, indeed, he had. The style of his speaking was massive, nervous, and forcible, unweakened by sentimentality and undisfigured by bathos. Yet in considering the sources of success in a teacher we must look beyond oratory or erudition. A great teacher must in the first place be gifted with that strange power, partly physical, partly moral, which in itself gives to its possessor command over the minds of men. In the next place, the teacher must be thoroughly in earnest, for this gives to every word he utters a power of forcing its way that cannot be resisted. Lastly, to use the words of Arnold, 'he must not supply his hearers from a cistern, but give them living water.' He cannot expect to command attention or interest when he gives, year after year, only the same facts, views, and arguments no matter how valuable they may be. For even to those who hear him for the first time, his discourse will fail in vitality, and in producing that sympathy between the speaker and the hearer, which makes the latter not only receive gladly what has been said, but almost anticipate that which is to follow. This power is attainable only when the teacher is himself an original investigator, when he has himself been permitted to strike the rock, and to cause it to pour forth the fresh and sparkling stream. Genius, the creative power, so far as such a power is given to man, will, while it produces its golden fruits, find a descriptive language of its own, which he who deals merely with the thoughts and discoveries of other men can never speak.

"Original investigation, it is plain, not only is concerned with the new, the unknown, but gives to the past a freshness by the analogic method. In this latter, Graves was preëminent. His active mind was ever on the search for analogies, and thus he was led to the discrimination of things apparently similar, and to the assimilation of things at the first view dissimilar, in a degree hardly surpassed by any teacher of medicine."

"In reviewing Graves' medical doctrine," says his biographer,

"it is found to be essentially eclectic." We need scarcely say that Dr. Stokes does not attempt anything of a full exposition of Graves' teachings in medicine: to do so would require a commentary equal almost to that of Van Swieten on the *Aphorisms of Boerhave*. He contents himself, instead, with giving a rapid sketch of his leading doctrines, and the following enumeration of the more important of his special contributions to practical medicine:—

"1st. The employment of food and stimulants in fever, even from its earlier periods; in other words, their use by anticipation.

"2nd. The exhibition of acetate of lead conjoined with opium in spasmodic cholera.

"3rd. The development of the laws of pathological reflex action, as given in his Lectures on Paralysis, in which he has anticipated the views of Marshall Hall.

"4th. The employment of tartar emetic and opium in the delirium and insomnia of typhus fever.

"5th. The method of operating for the evacuation of hepatic abscesses by promoting adhesion between the hepatic and parietal peritoneum.

"6th. The observation of the latent periodicity in intermittent fevers.

"7th. The demonstration of the independent action of the capillary system in health and in disease, and the practical applications of this doctrine in the treatment of disease.

"8th. The account of the yellow fever as it appeared in Dublin in 1828.

"9th. The observations on symmetrical diseases.

"10th. The nature and functions of the lymphatic system.

"11th. The influence of position on the pulse, in health and in disease.

"12th. The description of the disease lately termed *Ex-ophthalmia cachectica*."

Although ardently devoted to the study of physiology, Graves, recognizing the true limits of that science, applied himself to the investigation and arrangement of the *effects of vital actions* rather than to *their nature*. He always attached great importance to the action of the capillary system, and combatted the *vis a tergo* theory of the circulation in health and disease; and in pathology taught that the local change is not the disease; for that to produce it a change in the vital action of the part must go before. In the following extract we have Dr. Stokes' summary of his opinions on some important points as to the pathology of fever:—

"In reviewing the portions of the *Clinical Medicine* which are devoted to Fever, we are at once struck with the absence of that tendency to

dilate upon fine or doubtful distinctions, which is so often met with in medical writings. We have no long disquisitions on the differences between typhus and typhoid fever, with which so many of our brethren have been lately occupied; nor, again, have we arguments to show that dothineritis is a mark of civilization and comfort, while its absence in fever is characteristic of the want and degradation of the Irish branch of the Celtic race. He did not form any theory of fever; but he did much better, in diligently studying its symptoms, watching how they were grouped, and in what order they followed each other; and lastly, in observing the effects of treatment in their progress. For, he well remarks, that the knowledge we possess of the nature of fever is of a negative character, telling us what it is not, rather than what it is. The writer is anxious to insist on this point, perhaps, indeed, because it coincides with his own convictions, as well as on the following, that after the experience of a life, and in circumstances the best adapted for observation, Graves arrived at the conclusion,—that the several forms of continued fever in this country are varieties, not distinct species, differing by any anatomical character. It may be held that, in this country at least, there is no essential difference between typhus and what is called typhoid fever. We know that the same contagion will produce both forms; and, again, that these forms are mutually convertible. Before physicians indulge in theories, as to any particular disease, it is necessary that they should study it in different countries. Had Broussais studied fever in Ireland, the so-called physiological doctrine, so far at least as fever is concerned, would never have been announced, nor the error committed of taking the anatomical consequence for the cause. Had Clutterbuck followed a similar course, we should never have had the cerebral theory. Had Rasori been a physician to an Irish fever hospital, would the contra-stimulant doctrine have existed? And, to come to later times, we may safely affirm that the distinctions of recent British and American writers would have been at least less strongly drawn, had they studied the disease in our hospitals.

“Let us briefly enumerate the leading points of the doctrine of fever, as given in the *Clinical Medicine*.

“1st. Its existence as an endemic disease in Ireland, but occasionally taking an epidemic character.

“2nd. The existence of a general and peculiar character in each epidemic, subject, however, to modifications at different periods of the epidemic, and in different places, even at the same period of the disease. This had already been established by Cheyne and Barker.

“3rd. The contagious quality of all the forms of continued fever in this country; but especially the maculated form, the occurrence of which, however, seems to establish a greater immunity in the individual affected, from subsequent attacks than is observed in other varieties.

"4th. The necessity of avoiding a routine treatment, and the importance of the anticipative use of nutriment.

"5th. The doctrine, that fever in Ireland was to be attributed neither to miasmata nor to deficient food."

Varied and important as were Graves' contributions to medicine, yet his efforts were by no means confined to such subjects for all the events of the time, and more especially for those which concerned the advance of civilization—for discovery—the struggle of a people for freedom, or the military undertakings of his own country, he showed a continued, but not an empty sympathy. Many important writings to which his name is not attached were contributed by him, as leading articles to the public press, all distinguished by a careful preparation and a singular knowledge of the history and topography, the political condition, and material resources of various countries. His history of the war in Afghanistan, contributed to the *University Magazine*, of which Dr. Stokes gives an analysis, is a remarkable example of the powers of investigation and arrangement that he brought to bear on all subjects.

It was in the autumn of 1852, he being then in his fifty-seventh year, that the symptoms of the malady, which was to prove fatal, first showed themselves; and in the following February he began to succumb to the disease, from which he died on the 20th March 1853. Although at times his sufferings were great, yet he had many intervals of freedom from pain, and he then showed all his old cheerfulness and energy. To the very last he continued to take pleasure in hearing of any advance of knowledge that tended to ameliorate the condition of man, or to throw light on his relation to a future state. In illustration of this his biographer refers to the interest he took at this time in Layard's discoveries at Nineveh in connexion with the narratives of the Sacred History. We may be permitted to further refer, in illustration of the same undying zeal for the advance of knowledge, to his papers, published in our own pages at this period, viz., that, in our Number for August 1852, on the "Use of Gutta Serena in Skin Diseases" in which he points out the many purposes to which a solution of this substance may be applied in the treatment of various skin affections; and records cases in which Dr. Stokes had, at his suggestion, used it with great success for the prevention of pitting in small-pox; a mode of treatment that has very recently been claimed as a new discovery, but the credit of which is wholly due to Graves. In November, again, but a few months before his death, he contributed

a paper on the "Nature and Treatment of Epilepsy"—a paper characteristic of his desire to test and make known the merits of all suggestions for the alleviation of human suffering.

In following Dr. Stokes through his sketch of the life and labours of Graves, we have been carried away further than we had at first intended; but it is difficult to resist the desire to delay with one who shows himself such a loving and zealous biographer, and a commentator so able to appreciate and unfold the vast learning, the deep thought, and the comprehensive genius of him who, more than any other, has served to raise the rank and reputation of the Irish School of Medicine.

Extended as our notice has been, we cannot pass on without inserting the following letter from Trousseau, himself the author of a great work on clinical medicine; and, if any apology to our readers be necessary, let it be found in the fact that, though the almost founder, and, certainly, for many years one of the principal conductors of this Journal, no memoir of Graves has hitherto appeared in its pages. The letter was addressed by Trousseau to the translator of Graves' *Clinical Medicine*, and appears in the preface to the French edition of that work:—

"For many years I have spoken of Graves in my Clinical Lectures; I recommend the perusal of his work; I entreat those of my pupils who understand English to consider it as their breviary; I say and repeat that, of all the practical works published in our time, I am acquainted with none more useful, more intellectual; and I have always regretted that the Clinical Lectures of the great Dublin practitioner had not been translated into our language.

"As Clinical Professor in the Faculty of Medicine of Paris, I have incessantly read and re-read the work of Graves; I have become inspired with it in my teaching; I have endeavoured to imitate it in the book I have myself published on the Clinique of the Hotel-Dieu; and even now, although I know almost by heart all that the Dublin Professor has written, I cannot refrain from perusing a book which never leaves my study.

"Graves is an erudite physician; while so rich in himself he borrows perpetually from the works of his contemporaries, and at every page brings under tribute the labours of German and French physicians. Although a clinical observer, he loves the accessory sciences; we see him frequently having recourse to physiology, in the domain of which he loves to wander; to chemistry, with which he is acquainted, which he estimates at its true value, and to which he accords a legitimate place. He often reminds me of the greatest clinical teacher of our day, Pierre Bretonneau, an able physiologist, a distinguished chemist, a learned botanist, an

eminent naturalist, who incessantly, in his lectures and conversation at the Hospital of Tours, found in all those accessory sciences, with which he was so conversant, those useful ideas and ingenious views, which he subsequently applied with unusual felicity to the study of our art.

"Shall I now say what are, in Graves' work, the most remarkable and most important lectures? To be just I ought to indicate all in succession there is not one of them, in fact, which does not abound in practical deductions; there is not one which does not bear the impress of the admirable and powerful faculty of observation which distinguishes among all, the physician of the Meath Hospital. The lectures on scarlatina, paralysis, pulmonary affections, cough, headache, have acquired a European reputation, and the interest with which they inspire every attentive reader is assuredly their best panegyric.

"There are, however, two points to which it is important to call particular attention.

"Graves has devoted many lectures to typhus fever, which so cruelly decimates Ireland. It might be supposed, at first sight, that the study of this portion of his work is not of much importance to us French physicians, who fortunately have not to contend with the formidable malady in question; this is a mistake. All the precepts of the author upon the treatment of this pyrexia are so applicable to the severe form of our typhoid fever, that we shall with the greatest advantage consult this remarkable work; moreover, the maxims relating to regimen have become the guide of the practitioners of all countries: it is they which now direct us in the treatment of putrid fever. And, nevertheless, when he inculcated the necessity of giving nourishment in long-continued pyrexias, the Dublin physician, single-handed, assailed an opinion which appeared to be justified by the practice of all ages; for low diet was then regarded as an indispensable condition in the treatment of fevers. Here he rendered no other service than that of completely reversing medical practice upon this point, Graves would, by that act alone, have acquired an indefeasible claim to our gratitude.

"On the other hand, I cannot sufficiently recommend the perusal of the lectures which treat of paralysis; they contain a complete doctrine and this doctrine has decisively triumphed. The sympathetic paralysis of Whytt and Prochaska have now their place assigned in science, under the much more physiological name of reflex paralysis, and the Dublin Professor is the first who has studied with exactness their etiological conditions, as he is the first who has made known their pathogenic process. Anticipating by many years the admirable works of Marshall Hall, he has comprehended, he has seen that anomalous peripheral impressions may react upon any section of the medulla, and determine at a distance disturbances of movement or of sensibility; he has, in short, created the class of peripheral or reflex paralysis, and he has

clearly established the relations existing between these paralyzes and acute diseases. Unhappily these remarkable lectures have remained a sealed letter to the majority of French practitioners; but it is time to render to the physician of the Meath Hospital the justice which is due to him; it ought to be known that Graves is the creator of this new doctrine which has profoundly modified, within a few years, the pathology of the nervous system; it is right, in fine, to refer to its true author the suggestive theory of the paralyzes and the convulsions of peripheric origin.

"You have then, sir, done a very useful work in publishing Graves Lectures. You have rendered a great service, if not to beginners,—who will, perhaps not find in them the elementary ideas which are necessary to them,—at least to physicians, who must understand the reasons of instinct and intelligence by which they ought to allow themselves to be guided in the difficult paths of practice; who are called upon to assist in the doubts, embarrassments, and perplexities which trouble the conscientious man when he is engaged in those obscure cases which so frequently present themselves in the wards of an hospital.

"Graves is often empirical. What true clinical observer can avoid being so? But he is so only in spite of himself. He seeks, he points out the reasons which determine him; he discusses them, and he conducts his pupil step by step from the theory, occasionally too ingenious, to the application, which is always useful, though often unexplained.

"Graves is a therapist full of resources. For the majority of French physicians his medications present something unusual, because the agents he employs are rather less used in France; but we learn in his lectures the medicine of our neighbours at the other side of the Channel—a medicine strange to us, as ours is to them. We learn in them the methods most relied upon in the United Kingdom, and the remedies to which our English colleagues give the preference.

"I freely confess that I had some difficulty in accepting, notwithstanding the imposing authority of Graves, what he states of the influence of certain remedies, such as mercurials, essence of turpentine, spirituous preparations, nitrate of silver, &c.; but the Dublin Professor speaks with so much conviction that I ventured to follow his precepts, and I must say that my early trials very soon encouraged me to adopt unreservedly what at first I accepted only with misgiving. There is not a day that I do not in my practice employ some of the modes of treatment which Graves excels in describing with the minuteness of the true practitioner, and not a day that I do not, from the bottom of my heart, thank the Dublin Physician for the information he has given me.

"Graves is, in my acceptation of the term, a perfect clinical teacher. An attentive observer, a profound philosopher, an ingenious artist, an able therapist, he commends to our admiration the art whose domain

he enlarges, and the practice which he renders more useful and more fertile.

"We shall, therefore, be all much indebted to you, my dear confrère, for having rendered familiar to us an author unfortunately too little known among us.

"A. TROUSSEAU."

Graves was a Fellow of the King and Queen's College of Physicians; and was, subsequently, elected King's Professor of the Institutes of Medicine. He was chosen President of the College of Physicians in 1843 and 1844, and was elected a Fellow of the Royal Society in 1849. Besides these distinctions, he received the diploma of honorary or corresponding member from many of the medical societies of Europe.

The papers selected by Dr. Stokes for publication in the present volume are taken from those only of Graves' writings which bear on physiology and medicine. It is not intended that they should be taken as setting forth the state of physiology in our time, but, rather, as showing how the mind of a great physician dealt with physiology in its true relations to medicine. They are 32 in number, and do not include any of those already published in the volumes on clinical medicine. The earliest of them were first published in the *London Medical and Surgical Journal*, in 1834, and are taken from his lectures on physiology, as Professor of the Institutes of Medicine. Their titles are as follows:—"The Ubiquity of Life"—"The Position of Man in the Scale of Life"—"The Influence of Light"—"Phosphorescence"—"Effects of Temperature on Animal and Vegetable Life"—"Electricity in Relation to Plants and Animals"—"Distinctive Characters of Man"—"Faculties and Instincts of Man"—"Varieties of the Human Race"—"Laws of Periodicity"—"Chances of Life"—"Temperament and Appetite"—"General Principles of Dietetics." The remaining papers were principally published in the first and second series of this Journal, and some in the *London Medical Gazette*. Those on the anatomy of the hock joint in the horse, and on the vertebral column in certain cetaceæ, were published in the *Transactions of the Royal Irish Academy*, in 1830; and the essay on the comparative characters of the Great Salt Lake of North America and the Dead Sea appeared originally in the *Edinburgh Philosophical Journal* for 1851. In addition to those we have named, we find essays on other special topics in physiology, such as—

"On the Sense of Touch"—"On the Use of the Cochlea in the Organ of Hearing"—"On Latent Life and on Vital Crystallization"—"On Double and Single Vision"—"On the Laminated Structure of the Crystalline Lens"—"On Anomalies of Organization"—"On the Functions of the Lymphatic System;" and, in the miscellaneous division, we find essays—"On the State of Medicine in European and Asiatic Turkey"—"On the Effects of Intoxication on Graminivorous and Carnivorous Animals"—"On the Birth-days of Living Authors"—"On Preventing Evaporation from Water-tanks in Hot Climates"—"On Some Affections of the Hair"—"On Some Peculiarities of the Skeletons in Hunchbacks"—"On the Supposed Want of the Sagittal Suture in Certain Tribes of Negroes"—"On the Progress and Contagion of Asiatic Cholera"—"On Liebig's Theories of Animal Heat and of Disease."

The very enumeration of these papers is sufficient to prove the industry and perseverance of the author; and while they illustrate the physiology of the time at which they were written, they convey, at the same time, a vast amount of information, such as all practitioners of medicine ought to be familiar with, not only because of its bearings on the art they practise, but because it is such as is absolutely necessary for him who would seek to hold the position amongst educated men due to his profession. We hope they will be extensively read, and we are sure they will, both by the profession and by society at large. We would be especially anxious that they should be read beyond the limits of the profession; and we would urge all our readers to recommend their perusal to their friends, where they have the opportunity; for we are firmly convinced that the diffusion of such information is the best means of elevating our professional status, and, at the same time, of checking and counteracting the spread of the several forms of quackery that take such hold on weak and half-educated minds.

We tender our thanks to Dr. Stokes for the publication of these papers at this particular period, for we believe them calculated to do peculiar and special service by calling men's minds back to the study of the effects of vital actions, and of the modes in which the vital powers react under the influences of external agencies, for the recent developments of morphological anatomy, and of organic chemistry, have been so seductive as to monopolize, in a great measure, the attention of our schools, to the almost entire neglect of the equally, or even more, important subjects which are here discussed. It is true that subsequent researches have thrown

additional light on some of them—and in this none would rejoice more than Graves; but, though further development may have taken place, yet the great principles remain the same, and are immutable.

The Pathology and Treatment of Phlegmasia Dolens, as deduced from Clinical and Physiological Researches; being the Lettsomian Lectures on Midwifery, delivered before the Medical Society of London, during the Session 1861-62. By F. W. MACKENZIE, M.D., &c. London: J. Churchill, 1862. 8vo., pp. 131.

FROM the time of Mauriceau to that of Davis and Lee successive authors have attempted to elucidate the pathology of phlegmasia dolens, nevertheless its proximate cause has remained, up to the present period, a matter of uncertainty. The theories of its etiology enumerated by various authors, down to Davis, were merely hypothetical; he introduced the phlebitic theory; and, up to the present, this has been the most popular and generally received one. The phlebitic theory, as the author of these admirable lectures observes, "rests upon far more valid and certain grounds than any other that has hitherto been put forward," and is, therefore, the most generally received. "But the question," he continues "still remains—how far does the existence of crural phlebitis, as an assured anatomical fact, adequately account for all the very varied phenomena of the disease? In other words—how far is phlebitis truly the proximate cause of the disease, or merely an important integral constituent of it? not, however, the cause of the other lesions common to it, but, like them, a parallel consequence of some more general and diffusive agency."

The above may be taken as the theme of the lectures now under consideration—namely, to unravel the question whether obstructive phlebitis be the result of some cause, and not the essence of phlegmasia dolens; in other words—whether it be not rather a symptom than a disease *per se*.

The doubtful pathology of phlegmasia dolens, which was based on anatomical investigations merely, has long occupied the author's mind; for, so far back as 1853 he brought forward some new views concerning the etiology of the disease, in a paper read before the Medico-Chirurgical Society. These views, the result of

repeated experiments upon animals, were purely physiological, unconnected with clinical or pathological observations, and therefore, to a great extent, imperfect as illustrating the nature of the affection. The doctrines arrived at were adduced from the effects observed on applying ligatures to veins, on irritating their lining membranes by chemical and mechanical agents, and on compressing their walls between metallic plates; and the conclusions he then came to may be condensed as follows:—Inflammation of neither the iliac or femoral vein could account for, or originate, *phlegmasia dolens*. Local causes—as injury or inflammation of these vessels—cannot produce the extensive obstruction of the veins met with in this disease. Irritation or obstruction of these veins will only give rise to obstruction of the same “to an extent commensurate with that of the irritation which may have been excited within them

“Extensive irritation of the lining membrane of veins, giving rise to obstruction, and all the phenomena of phlebitis, may be *excited by the presence of various unhealthy matters in the blood, circulating with this fluid, and determined upon particular portions of the venous system.*” Lastly—“The origin of the disease” (*phlegmasia dolens*) “is, therefore, to be sought for rather in a vitiation of the circulating fluid than in any local injury, inflammation, or disease of the veins.”

Such, then, having been the author's conclusions regarding the etiology of this disease in 1853, when he gave priority to physiological researches—he now proceeds to arrive at its proximate cause from *clinical facts*, in connexion with those furnished by physiological investigation; and thus to vindicate himself “against an imputation which he conceived to have been unjustly thrown out against his first paper, viz., that he had endeavoured to deduce a theory of the disease from experiments upon the lower animals, among whom it was unknown.”

Dr. Mackenzie divides his subject into three parts, each forming a lecture. The first consists of the pathological history of *phlegmasia dolens*; the second displays the physiological researches into the origin of phlebitis, as connected with the pathology of *phlegmasia dolens*; and the last consists of the application of pathological and physiological inferences to the prevention and cure of the disease.

In the first lecture is given a succinct review of the theories of the causation of *phlegmasia dolens* from the commencement of the last century to the present period. It is here remarked, *in limine*,

that the earliest theory, viz., that of metastasis, though now untenable, "yet rests upon a certain foundation of truth," as he endeavours to show in the sequel, "and indicates a fact of some practical importance, which has been established by more recent researches that the causes of lochial and lacteal suppressions or disturbances whatever they may be, may, under certain circumstances, become the effective causes of phlegmasia dolens. In order to proceed with his investigation Dr. Mackenzie defines the essential character of the disease, after Callisen, viz., "tumor elasticus, albescens renitens, calidus, dolens, foveam impressi digiti haud retinens," and concludes, from its local manifestations, that it is characterized by two conditions—first, a persistent and peculiar swelling of the affected limb, not depending upon simple œdema, but possessing a degree of tension, heat, firmness, and elasticity, which is not common to ordinary œdema; and, second, that it is characterized by an impairment of nervous and muscular functions of the limb as indicated by pain, tenderness, and loss of motor power. The question then is, can pure uncomplicated crural phlebitis give rise to all these lesions, "involving disturbances in the sensorial, motorial, and secreting functions of the limb." He takes, then, the phlebitis of surgical writers—especially those cases arranged by Dr. Ferguson, in his essay upon puerperal fever—and shows the great difference between them, as compared with those examples of the disease described by Callisen, or, of *pure uncomplicated phlebitis*, as compared with phlegmasia dolens. Therefore, simple phlebitis, so far, cannot be looked upon as the *fons et origo* of phlegmasia dolens. Thus he has to look for another cause of origin than local venous inflammation, and he fixes upon that of *febrile disturbance*, by whatever cause produced, and, as a consequence *altered secretion*. For example—in puerpera, febrile disturbances originated in various ways, may give rise to altered lochia, so as to render it a poisonous secretion; and, from the subsequent absorption of the secretions, thus altered, toxemia would be induced; and though a determination upon a particular portion of the venous system is manifest, as one of the results of this blood-poisoning nevertheless, there is general constitutional disease—the result, as well as the local phlebitis, of blood-poisoning.

Concerning the occurrence of phlegmasia dolens in puerpera, he observes, that convalescents after the first and second labours are more obnoxious to that disease, because most obnoxious to febrile action inasmuch as in these cases the parturient efforts are more protracted

and they are more liable to suffer from the effects of pressure and distension than pluripara. But febrile action may originate from other causes; and, once occurring, may give rise to blood-poisoning.

It may be asked, why is it in these cases, then—granting that severe blood-poisoning is the proximate course of the disorder—that it is one or other of the lower extremities which exhibits the local phenomena, seldom both together, and the left lower extremity more frequently than the right? Why should not the lesions be more general? If we understand our author aright, the side of the phlebitis corresponds with that of the attachment of the placenta—as was the opinion long since expressed—but that the phlebitis is not because of simple venous inflammation arising from irritation in that neighbourhood, it is still from venous absorption there, of altered secretion, and consequent toxemia. The febrile action is the first step; altered secretions the second; venous absorptions the third; then follows general blood-poisoning, with coagulation, obstruction, and all the symptoms of *phlegmasia dolens* as the result, at the site or side of the absorption. It would almost appear as if the poisonous secretion acted with *more* local virulence at the seat of the absorption. It is a curious fact that the investigations of Dr. Carrière, as to the greater frequency of the placental attachment upon the left side, corresponds exactly with the author's statistics as to the greater frequency of the occurrence of left in comparison to right *phlegmasia dolens*.

Upon analyzing a large group of cases of *phlegmasia dolens*, as to the period after delivery at which the disease occurs, it was found that no particular day appeared to be selected; nearly all the cases, however, occurred within 21 days after delivery; and this circumstance tends also to strengthen the author's theory of febrile action; inasmuch as it is within these 21 days that "those great puerperal actions are inaugurated which powerfully tend to modify or deteriorate the general condition of this fluid"—(the lochia)—"such, for instance, as the febrile reaction consequent upon labour, and the establishment of the milk—the modification of the lochial secretion thereby or otherwise induced—the effects of injury or contusions of the soft parts, and the reception of effete organic matter into the circulation, consequent upon febrile action and the involutions or disintegrations of the uterus. These and other circumstances peculiar to the puerperal period, tend in an especial manner to modify the conditions of the blood, and, as such, to

predispose to various local and constitutional diseases." But these puerperal actions constitute rather the predisposing than the exciting causes of the attack; and the latter are sought for in the various disturbing influences tending to febrile and inflammatory actions of various kinds, superadded to, and coöperating with them. In effect, the disease may supervene upon any circumstance, local or constitutional, which, by causing febrile action might give rise to altered secretions. Thus it follows after puerperal fever, from exposure to cold, dietetic errors, the operation of epidemic influences, tubercular disease, and *quickly* upon severe and protracted labours. These are some of the exciting causes while the puerperal state may be looked upon as the predisposing "Some febrile action, variously produced, would thus seem to constitute the bridge or connecting link between the act of parturition and the final development of the disease; and, admitting this position to be valid, then it follows that some abnormal or morbid condition of the blood must have existed either antecedently to or contemporaneously with, the commencement of the disease.' These being the author's views of the causes of the disease, he proceeds to the consideration of its symptomatology; and, prior to so doing, he separates phlegmasia dolens into two groups—the simple and complicated forms of the disease.

Simple phlegmasia dolens, according to the author, is almost free from danger, and occurs under four circumstances—during convalescence from puerperal fever; in connexion with large losses of blood, either during or after labour, or with antecedent anemia; exposure to cold during convalescence; or from febrile movement consequent upon some error of diet.

The complicated form of the disease, occurs during the progress of puerperal fever; with pelvic inflammation or suppuration; with malignant disease of the uterus or pelvic organs; with constitutional disorders; zymotic fevers, or inflammatory diseases of important organs.

Having stated the grounds upon which he had formed his views, from clinical evidence, the author proceeds to show how he arrived at similar conclusions from physiological research. His experiments, therefore, are rather fully detailed. These have been already published; so that we shall only give a slight glance at them here. The question he had to determine by these experiments was—"how far crural phlebitis, in a pure and uncomplicated form," could "give rise to the very complex phenomena of the disease; or, how far

phlebitis itself" could "be traced up to, and deduced from, some more general and diffused morbid agency capable of producing the various other local and general symptoms which are coördinately met with." Bearing in mind that the symptoms of phlegmasia dolens are not those which depend altogether upon venous obstructions—"thus, the character of the swelling is not simple œdema, but it is tense, hot, and elastic. The condition of the nerves is one of exalted sensibility, often amounting to the most agonizing pain. The motor powers of the limb are impaired to a degree which, in some instances, verges upon positive paralysis; and, in addition to the tension and obstruction of the chief veins, there is often redness and tenderness in the course of the lymphatics and principal cutaneous nerves."

The first set of experiments was to try what might be the effects of crural phlebitis in producing the symptoms of phlegmasia dolens. Three series of experiments upon dogs were had recourse to for this purpose, viz.: ligaturing the iliac veins; irritating the lining membranes of these veins by chemical and mechanical means; and, lastly, by including the same vessels between metallic compresses. The inevitable deductions from this first series of experiments were:—"That the symptoms of phlegmasia dolens are not producible by inflammation and obstruction of the crural veins alone, however rapidly or extensively induced. There is an absence of constitutional fever or disturbance; the swelling of the limb is neither elastic nor abiding, but simply œdematous; and there is no impairment of either its sensory or motor functions. With such facts, clearly demonstrated," continues Dr. Mackenzie, "there is, I submit, no other conclusion than that the affection of the veins is not the primary or essential lesion, or the proximate cause of the complaint."

So far our author had proved his point; but there remained still a very important problem to be solved, viz.:—What were the specific causes or condition that, while the veins are both obstructed and inflamed thereby, the motor and secreting organs of the extremity are also disturbed. To elucidate this point another series of experiments were adopted. In these the general mass of the blood was vitiated by means of a solution of lactic acid, introduced into the circulation through the veins. By this means our author produced, not alone obstructive phlebitis, but all the phenomena of phlegmasia dolens superadded thereto. The following are Dr. Mackenzie's conclusions:—"That phlebitis, occurring as a local disease, and

from the operation of a local cause, is never associated with the phenomena of phlegmasia dolens, nor, under any circumstances, can give rise to it; but that when it arises from, or in connexion with constitutional causes, or from local causes calculated simultaneously to infect the blood generally, then, that the lesion of the veins is very generally accompanied with the symptoms of phlegmasia dolens. The effective cause, therefore, of the phlebitis, as of the crural affection, is the constitutional condition out of which both have arisen; and phlebitis stands in no other relation to the etiology of the disease than in that of intensifying the local action going on in the affected extremity, by concentrating upon the general or diathetic conditions which may have given rise to it. Thus regarded, however, phlebitis plays a prominent, although subordinate, part in the phenomena of the disease. It intensifies the morbid actions going on in the affected limb; but, at the same time, does not create them; it is strictly a secondary effect, and like the other lesions of the extremity, is a common consequence of the same constitutional or morbid causes which may be in operation, and upon which they both mutually depend. It thus appears to me, that the conclusions deducible from physiological research essentially harmonize with those drawn from clinical experience, and so far—inasmuch as they mutually affirm and support each another, point to the blood origin of the disease—they furnish a strong argument in favour of the correctness of the views I have ventured to submit to you in relation to its nature and pathology."

Presuming that his theory is correct as to the origin of phlegmasia dolens, Dr. Mackenzie proceeds to apply his inferences to the prevention and cure of this disease—with the discussion of which question he closes his course of lectures.

Preliminary to the consideration of the treatment of phlegmasia dolens, Dr. Mackenzie, as may be inferred from his tenets as to its origin, insists upon the necessity of bearing in mind that the disease is not to be regarded as a local affection, "but rather as the crisis of some febrile or constitutional movement centered in the blood, and having its origin in various diathetic conditions, the precise nature of which, in any individual case, can only be determined from a careful consideration of the various circumstances under which it may have arisen;" that is, from the products of simple inflammatory action or from poisonous material directly absorbed from the maternal passages, or from a combination of both these causing a vitiation of the circulating fluid.

Thus premising, he takes the two leading types of the disease—the sthenic and the asthenic—and proceeds to detail the treatment of each.

Assuming Dr. Mackenzie's pathological ideas are correct in the treatment of the sthenic form, attention is directed to that of the *constitutional* and *local*. The constitutional treatment (considering a septic condition of the blood, the "*fons et origo mali*"), is resolved into that of depuration, correction, and reparation. To carry out the first, viz., depuration—early and active emetics; active, and, subsequently, continued purgation, with a view of obtaining free bilious evacuations; and the exhibition of diuretics and diaphoretics for the due maintenance of the renal and cutaneous secretions.

To carry out the second indication, or the corrective treatment—the alkaline salts, viz., those of potash and ammonia, especially the latter, with the view of either diminishing or maintaining, in a state of fluidity, the excess of fibrin in the blood. And here Dr. Mackenzie observes, that the acetate of ammonia which he had previously recommended as a sudorific, aids also in carrying out this indication, more especially if the hydrochlorate be used in addition. He also orders the use of a full dose of bitartrate of potash in warm water, every morning, which, while it maintains a free action of the bowels, in accordance with the first indication, assists also in carrying out the second or corrective line of treatment. With respect to the third indication of the constitutional treatment, or the reparative—hygienic and dietetic measures are chiefly to be had recourse to; bearing in mind that throughout the entire convalescence a moderately active state of the excretory functions is to be maintained. Here he recommends iodine in addition to the mildest depurants; the former, as iodide of potassium in strong decoction of bark and sarsaparilla. He also recommends the exhibition of the mineral acids in connexion with bark or quinine.

With regard to the local treatment of phlegmasia dolens, there is nothing mentioned deserving of particular attention, with the exception of a liniment composed of veratria, tincture of aconite, and soap liniment; which, according to Dr. Mackenzie, is most efficacious in relieving the diffused neuralgic pain, frequently so distressing.

In considering the treatment of the asthenic type of this disease, the three indications for action present themselves, as in the sthenic form; but Dr. Mackenzie considers the asthenic type as most

frequently connected with, or arising from, septic causes, and the sthenic with inflammatory; in the former, blood vitiation exist alone, uncomplicated with inflammatory action, and that therefore the depurative treatment is by far the most important and the most reliable.

"No apparent amount of vital prostration," says our author, "is inconsistent with the early and systematic resort to this practice, viz., 'the regular and systematic elimination, or weeding out from the blood, through the agency of the more important excretory organs, the morbid products which are in the circulation, and which essentially constitute the proximate cause of the disease.'" In this form of phlegmasia Dr. M. also commences with an emetic, but of a stimulating character, being a combination of carbonate of ammonia and ipecacuanha in water, every 15 minutes, till the effect is produced. As a purgative, he combines calomel, or grey powder with jalopine, "in varying proportions," and administers it every morning—the strength being, at the same time, maintained by wine cordials, and nourishments; and "whilst the purgative should form the first medical proceeding of the day, the last may be the administration of a suitable opiate or sedative at bed time."

The corrective treatment consists in the administration of antiseptics, of which class of medicines he considers the mineral acid the most valuable, and gives the preference to the hydrochloric. Dr. Mackenzie directs an ounce of the dilute hydrochloric in a quart of barley or flour water, sweetened with syrup of ginger, and flavoured with lemon peel—to be taken through the day. To this he occasionally adds an ounce of chlorate of potash, to recruit the saline constituents of the blood, and a little sulphate of magnesia to cause continuous depurative action.

In connexion with this line of treatment Dr. Mackenzie observes:—"I had reason to believe, for some time, that this practice was strictly original, as it had been deduced from original observations; for, although I was aware that the mineral acids had been given in septic or malignant fevers with the view of correcting putrescency, yet I was not aware that they had been given to this extent and in the manner I have now proposed, throughout the whole course of such fevers, both with a view of *preventing*, as well as *correcting* malignancy. However, in the course of some desultory reading, I found that very much the same plan had been recommended, and apparently empirically, by one Professor Reich of Erlangen, towards the close of the last century, and that it was

reported upon so favourably by a commission appointed at Berlin to investigate its therapeutical value in the treatment of fevers, that the author was awarded a pension by the King of Prussia, besides having other professional advantages ceded to him. Further, I found that a Mr. Braithwaite had communicated to the *Philosophical Magazine* a paper, in which a similar practice was recommended in scarlet fever; and the effect of it is said to have been so successful that not only was every case cured, but the tendency to secondary dropsy and glandular disease was entirely averted by it. I must, therefore, of course, renounce all claim to priority in the employment of this practice; but I am glad to be able to refer to such strong corroborative testimony in its favour."

The reparative treatment in this form of the disease, the consideration of which terminates the Lettsomian course of lectures, points also to the renovation of the blood and the restoration of the *vis vitæ*. Here, again, hygienic and dietetic measures constitute the chief desiderata; stimulants are recommended, and quinine, in combination with the mineral acids, advised.

We have given our readers rather a full insight into the contents of this short volume; nor do we deem any apology necessary for so doing, when we take into consideration the importance of the subject upon which it treats, and the soundness of the doctrines which it inculcates. Dr. Mackenzie has, in our opinion, removed the etiology of phlegmasia dolens from the regions of doubt and uncertainty, and has established a sure foundation upon which to act in respect to treatment. We have seldom read a book with more pleasure, and certainly have not, for a considerable time, derived such advantage, as from its perusal. In these days of scribbling, when every one considers it essential to publish, and, for lack of matter and experience, dresses up some old ideas with fresh costumes to pass as new, it is delightful to meet a volume like the present, really deserving the credit of originality. Dr. Mackenzie has handled his subject most ably and philosophically; his experiments are very satisfactory to our mind, and his deductions strictly logical. In conclusion, we would strongly recommend this book to the attention of the profession.

Hemorrhoids and Prolapsus of the Rectum: their Pathology and Treatment. By HENRY SMITH, F.R.C.S., England; Surgeon to King's College Hospital, London. Third Edition. 12mo pp. 108.

THE first two editions of this valuable work were received well by the profession. It embraced within its title most important contents—some of those affections of the rectum which have been most mismanaged, and which are daily the subject of complaint by many sufferers. We always hail with great satisfaction the efforts of the enlightened and educated surgeon to grasp from the hands of the impostor and the quack those special diseases which, from their very nature, demand that perfect reliance may be placed in the accuracy and truthfulness of the person who treats them, but which from the privacy surrounding them become frequently a fruitful source of speculation, emolument, and fortune to unprincipled persons. But here the mischief even does not cease. By the ignorant mountebank, disease, which has been trifling at first, is permitted to take its course, or, by improper applications, is aggravated in its nature, until it assumes altogether a new character; laying, most likely, the foundation for disease which will, in the end, compel the sufferer to seek competent advice, after having passed through much loathsome annoyance, pain, suffering, and disgust of mind. We have not said one word too much. We well know the flourishing trade that is carried on in this way by unprincipled persons and it is our duty to show up this imposture and quackery.

The public owe a debt of gratitude to such men as Mr. Smith who, after years of practical training, direct their minds specially to some peculiar class of those diseases which, to say the least, embitter life, detract from its comforts—sometimes rendering it very miserable, sometimes threatening its duration.

To the profession Mr. Henry Smith is well known as an able surgeon, an accomplished operator. To his pen we are indebted for several valuable papers on resections of bones and joints, and for contributions to other departments of surgery. Not long since we spoke in high terms of his practical work on strictures of the urethra; and not long ago we noticed the first edition of the book which has called forth these observations; and now, again, we cannot but praise this, the third edition, considerably enlarged. Truly we may record the accuracy of the author's assertion in the preface:—

"In preparing this new edition I have not confined myself to an enquiry into the efficiency of one particular remedy, but have taken the opportunity to consider, at some length, the pathology and general treatment of the diseases in question."

The cases which have been adduced to illustrate the different modes of treatment are admirably described, and are, we can assuredly say, truthful pictures, drawn from bed-side practice—the most valuable of all. The very practical way in which each subject has been handled proves at once to the hospital surgeon how diligently the author has been engaged in the study of those diseases treated, the best guarantee to the public for security. We have no hesitation in recommending this volume to the student, and to the surgeon likewise; profitable information rests on every page in it.

On Long, Short, and Weak Sight, and their Treatment, by the scientific use of Spectacles. By J. SOELBERG WELLS, M.R.C.S., Eng.; M.D., Edin.

THIS is a subject which ought to interest every one. There are very few who have not either some defect in vision themselves, or some friend who has. How often do we hear a gentleman who has begun to leave off reading the small print in his newspaper, and holds it at arms' length from his eyes, say—"I think I must get a pair of spectacles, but I am afraid of making my sight worse." After much consideration he, at last, turns into an optician's, and gets a pair of "nose nippers," which he lets hang gracefully in front of his waistcoat. The glasses are called "clearers." He tells his friends that he has got the very weakest, as he only wants them for reading small print. After a short time he finds he still has to hold his paper at a distance, and slant it so as to get a strong light on it. He again visits the optician, who supplies him with a higher number. For the first two or three days he feels an unpleasant weight about his eyes; he takes off his glasses frequently to rub his forehead, in which he feels an uneasiness and sometimes even pain. However this goes off, and he is very well pleased with the improvement in reading. Some fine day he goes out in a hurry and forgets his glasses. In the course of the day he goes to his club and takes up the papers; he passes over the small print as he has left his glasses at home, and turns to the

large; but to his surprise he finds that he cannot read it as well as he used to read the small print before he began to use his specs. He concludes that he has begun the use of spectacles too soon, and has thus injured his sight. The fact being, that in the first, he got too weak a glass, in the second, much too strong. In Germany the choice of glasses is not left to the optician. The medical attendant ascertains whether the eye be healthy or otherwise. Examines the amount of the defect in vision, and then prescribes the proper glass to remedy the defect. We have given the above example of the evils of a hap-hazard choice of glasses in long sight, or old sight, as the most familiar; but the evils of such a choice, in eyes affected with short or near sight, are much greater. Many such eyes have been destroyed by the injudicious selection of glasses.

Mr. Wells' book, which we have read with much pleasure, would have supplied the practitioners with an excellent guide, had the author been a little more careful in transcribing the figures in the formulæ. Out of five of these three are incorrect. The views of Graefe, Donders, &c., are very clearly given and compared with each other. The object of the book is best described in the author's own words, in his preface, and we must commend the author for his prudence in avoiding complicated calculations:—

“I have endeavoured, in these pages, to lay before the reader, in an easy and practical form, the modern theories of the affections, of the accommodation and refraction of the eye, so as to enable him at once to grasp the most salient and important points in the symptoms, diagnosis, and treatment of these diseases. I have purposely abstained from mathematical calculations, and have confined myself to such simple formulæ as I have found most serviceable and ready in practice.”

The book is divided into eight chapters. The first contains an account of some of the various theories on the accommodation of the eye. The second commences with a definition of the term range of accommodation; followed by a description of some of the methods employed for ascertaining the measurement or extent of this range, and concludes with a division of eyes, according to these measurements, into normal, myopic, and hypermetropic. The six other chapters are devoted to the consideration of these conditions of the eye, their causes, and treatment by the use of glasses.

“By the term Accommodation, is meant the power which every normal eye possesses of adjusting itself almost imperceptibly and

unconsciously to different distances." It has long been a keenly-debated question in what the changes of accommodation of the eye consists. Some of the various opinions the author gives, and compares them in a very lucid manner with the opinion of Graefe, which is now generally held to be the correct one—namely, that the ciliary muscle is the active agent. Cramer, Donders, Helmholtz, Müller, and others, considered that the iris plays a more or less important part in the mechanism of accommodation. The question was set at rest by a case which occurred in Professor Von Graefe's Clinique, in 1859. The case is shortly this:—Whilst Professor von Graefe was abscising a prolapse of the iris, the patient made a sudden violent movement with his head which the assistant could not check; the iris was somewhat dragged, and a dialysis occurred at the opposite side. The portion of iris still lying between the lips of the wound was drawn gradually out until the dialysis was complete. The whole iris was thus removed. The slight effusion of blood soon disappeared from the anterior chamber. Ten days after the operation, the cornea had also regained its transparency. The state of vision in this eye was as perfect as the other normal eye. He could count fingers at 150 feet, and read No. 1 of Jägers, *i.e.*, the smallest print, at eight inches. The power of accommodation was most accurately and severely tested, and it was found that in spite of the total absence of the iris, his power of accommodation was quite normal.

The range of accommodation is defined thus:—"The distance between the furthest and nearest point of distinct vision, is called the territory, or range of accommodation. When the eye has assumed its highest state of refraction, it is accommodated for its nearest point of distinct vision; when its state of refraction is, on the other hand, relaxed to the utmost, it is adjusted for its furthest point." The first simple formula our author gives us is from Donders:—"The range of accommodation A, is given by the focal distance (*a*) of an ideal lens, which, placed upon the anterior surface of the crystalline lens, would afford, to rays emanating from the near point, a direction as if they came from the far point. We must suppose this lens a meniscus, placed upon the anterior surface of the crystalline, because the accommodation depends almost exclusively upon a change in the convexity of the anterior surface of the lens." Our author then illustrates this by the

formula $\frac{1}{p} - \frac{1}{r} = \frac{1}{a}$ and $A = \frac{1}{a}$. He calls *r*, the far point; *p*, the

near point; ∞ , infinite distance; ', foot; ", inch; ''', line. Having thus settled his figures he goes off full sail:—"Normal eyes, which can see from an infinite distance up to 4" from the anterior surface of the crystalline lens, have their far point (r) at an infinite distance (∞), their near point at 5";" we should have said 4." In order to find the range of accommodation of such an eye, we apply the formula $A = \frac{1}{p} - \frac{1}{r}$. In our case $r = \infty$, $p = 5''$; therefore, $A = \frac{1}{4} - \frac{1}{\infty} = \frac{1}{4}$. We humbly submit that if our author had used the old sign for infinity $\frac{1}{0}$ he would find it more serviceable and ready in practice.

In Graefe's Archiv. the formula stands thus, $A = \frac{1}{4} - \frac{1}{\infty} = \frac{1}{4}$. He then gives Graefe's method for treating the range of accommodation. We shall here only mention that a convex lens is used to ascertain the far and near point. Here the same formula is employed. In the first example, a myopic eye, we find that (with convex 6) $r' = 5''$, $p = 3''$. The eye is consequently myopic, for it is not adjusted for the normal far point (6"), but for a nearer one, the rays from which impinge in a divergent direction upon the eye, $A = \frac{1}{3} - \frac{1}{5} = 7\frac{1}{2}''$.^a Of course our author having found these formulæ "most serviceable and ready in practice," we must take for granted they are really useful to him; but $7\frac{1}{2}$ seems to us to be a great deal for so little to be equal to. We may say the same of the formula for the hypermetropic eye. " $A = \frac{1}{3} - \frac{1}{8} = 4\frac{1}{2}''$." Such errors seem very trivial when corrected, but to ordinary readers are a source of great confusion and perplexity.

Chapter III. contains a very interesting description of myopia or near sight. This chapter and those following it are well worthy of being read. "In myopia the refracting power of the eye is increased, or the optic axis too long, so the parallel rays (emanating from distant objects), or even not sufficiently divergent rays, are brought to a focus before the retina." . . . "In the short-sighted eye, therefore, only such rays as come from a finite distance, and impinge in a sufficiently divergent direction upon the eye, are united upon the retina."

Short sight is often hereditary, often acquired in early life. A

$$^a A = \frac{1}{3} - \frac{1}{5} = \frac{1}{7\frac{1}{2}}$$

$$^b A = \frac{1}{3} - \frac{1}{8} = \frac{1}{4\frac{1}{2}}$$

explanation of the latter is put forward by the author in the case of persons employed at watchmaking, needle-work, &c.:—"Persons thus employed continually accommodate for a very near point, their lens has, therefore, constantly, to assume a more convex form; and after a time it may not be able quite to regain its original form, even when the necessity for adjusting itself for near objects has ceased. This occurs more frequently when the lens naturally possesses but a slight degree of elasticity; for, after it has been for a length of time accommodated for near objects, it gradually loses the power (like a bad watch-spring) of springing back to its original form—it remains too convex even when the pressure upon its periphery ceases." Lengthening of the eyeball is also given as a cause of short sight, the most common cause of which, is the disease known as sclerotico-choroiditis posterior. Graefe considers that in every case in which the myopia is considerable posterior sclerotico-choroiditis is present.

The ophthalmoscopic examination of the myopic eye is very interesting. For the description we must refer the reader to Mr. Wells' book; but we extract the following remarks on the prognosis:—

"It is of great consequence accurately to determine the amount of the myopia, so that we may hereafter be able at once to judge whether it has remained stationary or has progressed. In the most favourable cases the myopia remains stationary at the adult age; later in life it may even decrease somewhat, but generally this is not the case; and the popular idea that myopia decreases in old age is erroneous. This error is due to the fact that it was thought possible to determine the degree of myopia by the position of the near point; and, partly, also by the fact, that short-sighted people can see better at a distance when they get older on account of the increasing diminution in the size of the pupil. There is nothing to be feared from a slight stationary myopia; far different is it, however, if it be progressive, for it is then always a source of danger to the eye."

Donders considers every myopia progressive during youth. He gives many cautions to be observed at this time. Everything that may cause a determination of blood to the eye, working with the head bent forward, &c. A very interesting description of "Myopia in Distans," as described by Graefe, follows, which is too long for us to give in full. The patient could see distinctly as far as six feet, as if his eyes were normal; beyond that distance, namely, at ten

feet, he could not discern even the outlines of a picture. A strong concave glass quite corrected the defect in vision. Several theories have been started to account for this phenomenon. The affection is very rare:—

“The degree of myopia is easily determined according to Donders method. If, for instance, a myopic person can read No. 1 of Jäger up to a distance of 10 inches, his far point lies at 10 inches, and his myopia $= \frac{1}{10}$; for, with a concave glass of 10-inch focus, he would be able to unite parallel rays upon the retina. For, does not the glass render parallel rays as divergent as if they came from a distance of 10 inches before the eye?

“But although, theoretically, a concave glass of 10-inch focus should be the proper one, we find in practice that it would be too strong. This is due to the convergence of the optic axis; for this prevents the eye from accommodating itself for its far point—the latter is only attainable when we look at distant objects with parallel axis. We should find that our patient would require concave glasses of 12 or 13 inches focus.

“It is still, however, a much debated question whether short-sighted persons should be allowed glasses for reading, writing, &c. Donders strongly recommends it for the following reasons:—

“1. Because strong convergence of the optic axis is necessarily paired with tension of the accommodation. . . .

“2. On account of the habit which short-sighted persons have of bending their head forwards during reading or writing. This must cause an increased flow of blood to the eye, and an increased tension within the eye itself. . . .

“The greater the range of accommodation the less harm will spectacles do, and *vice versa*.

“Whilst these forms of myopia may be furnished with spectacles for near objects, it is very dangerous to permit their use in patients whose range of accommodation is very limited, and who suffer from such an amount of amblyopia that they cannot read No. 4 or 5 of Jäger, even with the most accurately chosen glasses. Such patients will bring the object very close to the eye in order to obtain large retinal images, the accommodation will be greatly strained, the intra ocular tension be increased, and great mischief be sure to ensue. If there be much amblyopia, spectacles should not be permitted at all for near objects.”

Chapter IV. is on insufficiency of the recti interni muscles as a cause of defective vision. We could not do justice to this chapter by giving short extracts from it. It must be read as a whole. Double vision and its treatment by prismatic glasses is very well

described, and the advantages of operation put in a clear light. We are glad to see that Mr. Wells is now publishing a series of papers in the *Times and Gazette* on strabismus.

Chapter V. is on sclerotico-choroiditis. This disease, of which little, if anything, was known before the ophthalmoscope came into use, is the cause of many of the unmanageable cases of near sight. The usual position of the inflammation is around the entrance of the optic nerve. It appears like a crescent round the optic disc or blind spot. In this case vision is only impaired, but the same process may go on in the region of the macula lutea.

"Little white patches appear, which increase in size, and coalesce, giving the whole an appearance of alternate white and dark reticulated spaces, the white spots being due to the sclerotic shining through the atrophied stroma and pigment layer of the choroid. . . . The occurrence of the disease at the macula lutea causes generally great impairment of vision, and the patients then also complain of the constant appearance of one or more central fixed black spots (scotomata)."

The complications of this disease are very serious. Vitreous opacities, pigmentation of the retina, detachment of the retina, opacity at the posterior pole of the lens, occur in the later stages of the disease—"Cataracta accreta and atrophy of the globe may close the scene."

Chapter VI. is on old sight or presbyopia. The formulæ are very clear, and can be used by any one. Our author says:—

"Let us, with Donders, consider presbyopia, to begin when the near point is removed further than eight inches from the eye.

"The degree of presbyopia may, according to Donders, be easily found thus:—If $p. > 8'' = 8 + n$, presbyopia $Pr. = \frac{1}{8+n} - \frac{1}{8}$.

"This simply means that we are to deduct the near point ($8''$), at which we consider the presbyopia to commence, from the presbyopic near point. If, for instance, the latter lies at $12''$, it would be $\frac{1}{12} - \frac{1}{8} = -\frac{1}{24}$. Again, if it lies at $16''$, it is $\frac{1}{16} - \frac{1}{8} = -\frac{1}{16}$. $Pr. = \frac{1}{16}$. We have, at the same time, found the number of the convex glass, which would bring the near point back again to 8 inches. In the first case it would be convex 24, in the last convex 16. . . .

"There can be no question as to the advisability and necessity of affording far-sighted persons the use of spectacles. They should be

furnished with them as soon as they are in the slightest degree annoyed or inconvenienced by the presbyopia. Some medical men think that presbyopic patients should do without spectacles as long as possible, for fear the eye should even, at an early period, get so used to them as soon to find them indispensable. This is, however, an error, for if such persons are permitted to work without glasses, we observe that the presbyopia soon rapidly increases."

Chapter VII. is on hypermetropia. The author explains:—"By hypermetropia is meant that peculiar condition of the eye in which the refractive power of the eye is too low, or the optic axis (the antero-posterior axis) too short;" and he considers hypermetropia to be often the cause of asthenopia and convergent strabismus.

"The refractive power of the eye is so low, or its optic axis so short, that when the eye is in a state of rest, parallel rays are not united upon the retina but behind it, and only convergent rays are brought to a focus upon the latter.

"It was, indeed, a great boon when Donders discovered that most of the cases of asthenopia depend upon hypermetropia, and might, therefore, be permanently cured by the proper use of convex glasses.

"In these cases of asthenopia, dependent upon hypermetropia, we sometimes find with the ophthalmoscope that the choroid and retina are somewhat congested. And I have known patients, in whom this was the case, strongly advised to abstain from all work, and particularly to eschew the use of spectacles. . . . The congestion is in fact owing to the overstraining of the accommodative apparatus, and will disappear as soon as the necessity for this over-exertion is removed by the neutralization of the hypermetropia through convex glasses.

"I must therefore strongly urge the necessity of the hypermetropic person wearing glasses *always*, for distant as well as for near objects."

Chapter VIII. treats of paralysis, spasm, and atony of the ciliary muscle, &c. Into the particulars of this chapter we have not space to enter. We perfectly agree with the author in his conclusion:—

"That the proper and scientific choice of spectacles is of great importance to the public, and I have no hesitation in saying that the empirical hap-hazard plan of selection, generally employed by opticians, is but too frequently attended by the worst consequences; that eyes are often ruined which might, by scientific and skilful treatment, have been preserved for years. I would, therefore, recommend strongly the adoption of the following plan, which is largely employed on the continent, and also by several ophthalmologists in England. The medical man himself selects the proper glass; the focal distance of the required glass is written on a slip

of paper, which is taken to the optician, who supplies the patient with the spectacles prescribed thereon."

We can strongly recommend a careful study of the whole book to our readers. The errors in the arithmetic any one with a knowledge of vulgar fractions can correct.

On Ovarian Dropsy: its Nature, Diagnosis, and Treatment. By I. BAKER BROWN, F.R.C.S., &c., &c. J. W. Davies, London. 8vo., pp. 283.

THE subject of ovariectomy is, perhaps, the most important at present under discussion in the surgical world. It is scarcely ten years since the operation was even admitted as one which might possibly become legitimate; and to the present day few of those surgeons who had acquired a certain status at that period, have given in their adhesion to this new and formidable operation. We therefore receive with pleasure any addition to the already not scanty literature on the subject of disease of the ovaries, being firmly convinced that by degrees, as fresh light will be brought to bear upon the subject, and new facts elicited, the correct diagnosis of their diseases will be facilitated; and that once obtained, we may fairly expect a greater degree of success in future operations.

It has been said that the agriculturist who causes two blades of grass to grow where only one blade grew before is a great public benefactor. What shall be said of those men who, in the teeth of a storm of opposition—unsuccessful operations, and the resistance of the *vis inertiae* of preconceived opinion and prejudice—have still persisted in their course, and have at last succeeded in establishing ovariectomy among the legitimate operations of surgery, and that not only in Great Britain, but also on the Continent? But a few years ago the wretched victim of ovarian dropsy, however young, however free from all malignant disease, was doomed to a slow, exhausting, and lingering death; her life was wretched, and the only relief she experienced was when the surgeon came, from time to time, to tap the ever-filling cyst. At last such a patient would die, not killed by a disease, the existence of which was incompatible with life, but simply worn out—exhausted. Ovariectomy could, in all probability, have saved such a one; for, the published tables of

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this operation show the great fact, that out of 395 completed operations, 212 have resulted in recovery. Great honour, then, is due to British surgery; for this operation is essentially of British origin, and will ever reflect the greatest credit on British genius, philanthropy, and perseverance.

The work before us is divided into six chapters, which treat successively of the pathology of ovarian or encysted dropsy; of the symptoms and cause of ovarian dropsy; of the diagnosis of ovarian dropsy; of the treatment of ovarian dropsy; concluding with a narrative of 42 cases of ovariectomy, with the patient's previous history and the eventual result, embodying a mass of information, the value of which could not be over-estimated.

The author reviews the various modes of treatment, commencing with the several forms of tapping through the abdominal walls, the vagina, and the rectum; tapping, followed by regulated pressure, and treatment by injections of iodine after tapping. Graduated pressure after tapping seems to have proved successful on several occasions in Mr. B. Brown's practice; and at p. 100 will be found the details of a very interesting case treated and cured by this method alone. But we should fear that in the event of this treatment failing, the patient would be then in a less favourable position for the operation of ovariectomy, as we would fear that the long-continued pressure might have been productive of many adhesions, which always more or less serve to complicate and render more hazardous the operation.

The chapter devoted to the consideration of the operation itself is full of instruction. Speaking of the character of the incision, the author says:—"I have not enjoined the use of any particular length of incision. . . . The long, the medium, and the short and small incision have each had their advocates. . . . And statistics have been adduced to show that fewer deaths attend this or that length of incision. Such discussions I regard as of little moment." So far as our personal experience goes we fully concur with the author; and we believe that the length of the incision will not tell against the patient's chances of recovery, while it will greatly facilitate the proceedings of the operation, and thus indirectly increase the chances of success. We have been taught by practical experience that the peritoneum is not that delicate membrane which it was once thought to be; it is of far tougher constitution, and will bear a deal of hard usage, as is well proved by those cases in which the operation has not been concluded in consequence of

fast adhesions, mistaken diagnosis, &c.; and where, after considerable manipulation and examination of the viscera, the abdominal parietes have again been stretched over the tumour, brought together by sutures, and the patient has recovered without a single drawback. The real difficulty we have to contend with in ovarian cases consists entirely in the diagnosis. We have vastly improved during the last ten years; but we have still much to learn. Accuracy of diagnosis will, without fail, increase our success, as we shall be in a position to select or discard such cases as are fit, and such as are unfit, for operation. Such accuracy can only be obtained by experience, and by careful study, not only of successful cases, but also of unsuccessful ones; nay, even more by the latter, as the *post mortem* examination comes in to our assistance. In conclusion, we recommend this work to our readers, and we trust that every one who can will contribute his share to the improvement of the diagnosis of diseases of the ovaries, and the illustration of the operation of ovariectomy, an operation which, if formidable in itself, is not more so (if statistics can be depended on) than many other operations of daily occurrence in hospital practice, while it has advantages which no other operations possess; for, when successful, it completely cures in cases where otherwise death would be inevitable, and it neither mutilates nor leaves any deformity behind.

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1. *A Treatise on the Continued Fevers of Great Britain*. By CHARLES MURCHISON, M.D., Fellow Royal College of Physicians, Senior Physician to the London Fever Hospital.
 2. *Lectures on the Distinctive Characters, Pathology, and Treatment of Continued Fevers, delivered at the Royal College of Physicians, London*. By ALEXANDER TWEEDIE, M.D., F.R.S., &c.

IN the wide domain of medicine there is no subject of more absorbing interest than fever; and, consequently, we find it engaging the attention of the most profound thinkers amongst the cultivators of medical science in all ages of the world. From a very early period down to the present time, we may trace the history of this pestilence, under a variety of designations, it is true, but all, nevertheless, capable of being included under the generic term—fever.

To the Irish physician fever possesses a peculiar interest, and

claims at his hands the closest study and the most careful investigation, inasmuch as it is a disease with which he has to deal, not merely during its epidemic prevalence, but at all times. With such opportunities of frequent observation, it would, indeed, be strange if Irish physicians had not made fever a special study, and largely contributed to our knowledge of a malady the treatment of which may be said to form no unimportant part of their daily work.

Numerous as the labourers have been in this field of inquiry, at home and abroad, and fruitful as has been the harvest which has been gathered, much remains to be done, and we therefore rejoiced at the publication of *A Treatise on Continued Fevers*, by Dr. Murchison; for we were led to expect a work from the perusal of which we might derive much valuable information; and to this we shall first direct our attention.

We were aware that the subject had long engaged his attention, and we had read with profit his communication to the Medico-Chirurgical Society, on the "Etiology of Continued Fevers," which we consider a most important and valuable contribution to our knowledge of the disease, founded on carefully collected facts. That Dr. Murchison enjoyed ample materials for the performance of the task of writing a treatise on fever must be conceded from the fact that he is Physician to the London Fever Hospital.

The reader naturally asks, what are the sources from which an author draws his experience? and if he finds that he has had ample means of making himself thoroughly acquainted with the disease on which he treats, his statements come with an authority which is too often absent, owing to the propensity which prevails to book-making, by persons whose opportunities are too limited to give weight to their views on any subject connected with medicine.

PATHOLOGY AND CLASSIFICATION OF FEVER.

In the first chapter, or introduction, of his treatise on fever, Dr. Murchison refers to the subject which has so much occupied the attention of physicians for the last 20 years—namely, the specific identity or non-identity of the different forms of fevers. This point he looks on as settled, believing that the investigations of Henderson, and other writers, on the epidemic of 1843 have established the distinctness of relapsing fever from typhus; while those of Gerhard, Stewart, Jenner, and others, have proved the non-identity of the true typhus and the enteric fever, to which Louis applied the term typhoid.

These three, with simple fever, are classed under the denomination of continued fevers; and our author considers the poisons which produce the typhus, typhoid, and relapsing fever are probably as distinct as the poisons which produce small-pox, measles, and scarlatina. Recent investigations, he considers, render it probable, that the circumstances under which the continued fevers are generated are different; that the typhus poison is generated by the protracted concentration of the exhalations from living human bodies; that relapsing fever occurs in that peculiar condition of the system produced by starvation, while that of typhoid fever is contained in the emanations of certain forms of decomposing matter.

The discrepant statements of writers on fever are, according to our author, explained by the recognition of several species of continued fever. The history of epidemics proves that each of the specific fevers maintained its identity in all times. Sydenham's description of small-pox and measles applies to the small-pox and measles of the present time. The descriptions of typhus by Fracastorius, of relapsing fever by Ratty, and of "pythogenic fever," as Dr. Murchison proposes to denominate typhoid fever, by Baglivi, Huxham, and Manningham, closely agree with the clinical history of these diseases now. Looking to the recognized causes of continued fevers, Dr. Murchison cherishes the hope that they may be exterminated by attention to sanatory arrangements, as ague and the oriental plague have been by drainage, and the improved construction of our dwellings. The theories which have been proposed to account for the phenomena of fever are glanced at, and the fact noticed that the investigations of Virchow tend to confirm the opinions of some of the earliest writers on medicine. According to Hippocrates, Galen, and Avicenna, "*Essentia vero februm est præter naturam caliditas*;" and the definition of the world-famous pathologist of our day runs thus:—"Fever consists essentially in elevation of temperature, which must arise in an increased tissue change, and have its immediate cause in alterations of the nervous system." How strange it is that, after revolutions of opinion extending over ages, the truth of the old doctrine should be firmly established.

The question of augmented tissue metamorphosis in fever is next noticed, the experiments of Dr. Alfred Vogel referred to, and the increase of urea noted, which was long since established by Prout. Dr. Murchison calls attention to the close resemblance between uremia and some cases of typhus, in which the symptoms may be

referred to the retention of carbonate of ammonia in the blood; but he thinks that other circumstances probably contribute to the production of the cerebral symptoms, such as defective nutrition of the brain and nerves, and mal-aëration of the blood from pulmonary complications.

The experiments of Claude Bernard, Walter, Volkmann, and others, are adduced in confirmation of the probable influence of a semi-paralyzed condition of the sympathetic nerve in producing the increased metamorphosis of tissue, and the high temperature in fever; but not to the exclusion of the influence of altered blood. The influence of the nervous system in the production of the phenomena of fever has long since been recognized; but Dr. Murchison, while admitting that in simple continued fever, produced by mental and bodily fatigue, &c., the nervous system is primarily affected, is of opinion that in fevers produced by a specific poison absorption into the blood is the first link in the chain of morbid action. Dr. Murchison does not believe, with Sir Henry Marsh and others, that the rapidity of the action of a poison is any proof of its acting primarily upon the nervous system; but we think that there is good ground for believing that at least in some cases in which a poison acts instantaneously, and even kills, the shock which is capable of producing such a result is received by the nervous system, and is not the result of absorption into the blood.

In his admirable "Observations on the Origin and Latent Period of Fever," Sir Henry Marsh observes:—"That this instantaneous connexion between a sentient surface and the brain exists, is evident from the manner in which the healthy functions of the external senses is performed. Should it be asked how it is that a poison applied to an abraded or mucous surface should instantly disturb the cerebral and other functions, I should answer that I do not know; but I should, in turn, ask how it is that an electric shock, almost without a lapse of time, is almost fatal; how is it that a blow on the stomach kills upon the spot; how is it that vehement passions shall instantly destroy the functions of life, or so damage them as to produce disease? These all appear to be impressions made upon the nerves or upon the brain, and the effects are instantaneous. These, although inexplicable, prove that it is very possible, and that it accords with the known functions of the brain and nerves, that hurtful impressions applied to the sentient extremities of the nerves shall as quickly as an odour is perceived, or as the shock of electricity pervades the system, produce upon the brain, and thence

upon some or all the organs of the body, injurious or dangerous effects. This principle will be found extensively useful in ascertaining the origin of several diseases."

Alluding to the preceding part of the essay, this distinguished physician and accurate observer proceeds to say:—"From the facts stated at the commencement of this paper, it appears that the poison of contagion produces its effects with the same rapidity as the narcotic poisons to which we have alluded. Headache, debility, sickness of stomach, or vomiting, are amongst the symptoms first produced. This injurious impression upon the sentient extremities is, in a few rare instances, so violent as to be very speedily fatal."

That the blood becomes contaminated at a very early period in fever we are free to admit; but we incline to the opinion of Sir Henry Marsh, that in many cases the nervous system first receives the shock. The phenomena of idiopathic fevers are summed up thus by our author:—

"1st. The fever poison enters the blood.

"2nd. The nervous system (and particularly the sympathetic and vagus) is paralyzed.

"3rd. The retrograde metamorphosis of the muscles and other tissues is increased, while, at the same time, little or no fresh material is assimilated to compensate for the loss. Increased temperature, great muscular prostration, and loss of weight are the results.

"4th. The destruction of tissue is increased by the accelerated action of the heart.

"5th. The non-elimination of the products of tissue—Metamorphosis gives rise to cerebral symptoms and local inflammations.

"6th. On the elimination of the fever poison and the products of tissue metamorphosis the nerves resume their normal function. The undue consumption of tissue is checked, and the patient regains his strength and weight. It is impossible to say why this termination occurs at a definite time in different fevers."

The remedial measures should be directed to attain the following objects, if this be the correct pathology:—

1. To neutralize the poison, and improve the state of the blood.
2. To promote elimination.
3. To reduce the temperature and the action of the heart.
4. To sustain the vital powers by stimulating the paralyzed nervous system, and supplying nourishment to compensate, in some measure, for the increased consumption of tissue.

5. To relieve distressing symptoms.
6. To obviate and counteract local complications.

HISTORY OF TYPHUS EPIDEMICS.

The second chapter opens with a Historical Sketch of Typhus Fever. The author says "a complete history of typhus would be the history of Europe for the last three and a-half centuries." We cannot agree with Dr. Murchison that his history is an "imperfect attempt" to give an account of the great fever epidemics, for we consider that he has well accomplished the object he had in view.

Passing over the accounts of pestilences in the early times, which are, to say the least of them, apocryphal, and which may or may not have been typhus, we come to 1489, when 17,000 of the army of Ferdinand died of a disease which was doubtless typhus. The Spaniards gave it the name "El Tabardiglio," from the spots on the skin. Fracastorius described an epidemic of typhus (*febris pestilens*), 1505 and 1528—contagious, spotted, "maculæ rubentes puncturis pulicum similes." At this period it was observed that bleeding was followed by disastrous consequences.

In 1550–54, a period of scarcity, 10,000 persons died in Tuscany of spotted fever. In 1557, in France, and in 1566, in Hungary, a fever broke out (*morbis Hungaricus*) in the army of Maximilian II., and extended over Europe. In 1580 and in 1591 Italy was the scene of an epidemic of fever after famine; we then come to the first reported cases in England—"the black assizes." The 30 years' war (1619–1648) brought famine and fever in its train (*febris pestilens maligna*).

In 1643 the armies of the Earl of Essex and of Charles I. were attacked by fever, which was spotted and contagious. Again all England was invaded by it in 1658.

1665.—The Great Plague of London was preceded and followed by fever (*febris pestilens*). The connexion between famine and fever is frequently noted. In 1698 there was a great failure of the crops; and in October a fatal spotted fever began to prevail all over England.

Typhus Fever in Ireland.—Dr. Murchison, in continuing his history of typhus—which must be sought, up to the time of Sauvage who first employed the term, under a vast variety of names—proceeds to refer to our own country, which affords an unenviable opportunity to the physician for investigating the disease:—

"At the commencement of last century great attention began to be

paid in Ireland to epidemic diseases, of which a careful chronological history, extending over a long series of years, is to be found in the writings of Rogers, O'Connell, and Rutty. Typhus, however, was known in Ireland long before this, under the designation of 'Irish ague.'

1700 to 1800.—Rogers observed an epidemic in Cork, in 1708–9. Again, in 1718, a fever is described by O'Connell, which was epidemic in Ireland, which bears all the marks of typhus—duration, from 14 to 21 days—"petechiæ rubræ, purpuræ, aut lividæ." The harvest of 1717 was cold and wet. From 1721 to 1728 another Irish epidemic, preceded by three bad harvests. We write in a year preceded also by three bad harvests—*abset omen*.

In Rutty's work, entitled *A Chronological History of the Weather and Seasons, and of the Prevailing Diseases of Dublin*, &c.—extending over a period of 40 years, from 1725 to 1765—he gives an account of the fevers of each year, and other epidemic diseases. The fever was the same which prevailed in England at this time. In the records of the fevers of the 18th century we have frequent mention made of a measly rash. In the epidemic of 1740–41 O'Connell calculates that 80,000 perished; and, from Rutty's description of the disease, Dr. Murchison thinks that relapsing fever existed with typhus.

The practitioners of this day generally condemned bleeding. "Cordials and great plenty of sack" found greater favour. It was said by one physician (Short) that, in Galway, "blisters and bleeding made doubly fine work of it." Under the name "Hospital or Jayl Fever," of 1750–52, Pringle described typhus. In this fever, he says, "large bleedings have generally proved fatal." From 1740–41 to 1771 Ireland enjoyed a singular immunity from fever. In this year it showed itself in Tyrone. Dr. Sims attributed it to over-crowding "in foul confined places."

The close of the last and commencement of the present century were periods marked by much suffering in Ireland. Deficient nourishment, the consequence of bad harvests, again was followed by fever. The disease extended to England; and Willan, in controverting the theory which assigned inflammation of the brain as the cause of fever, says:—"Whoever is bled largely from the arm is precipitated to certain death."

1797–1803.—In the epidemic of this period it was observed that fever was more fatal in the upper ranks of life than the lower, and the same is stated to have been the case in the visitation of

1717-21, by Sir Henry Marsh, who thus wrote, referring to the case of a physician who fell a victim to the disease:—"His, too, was an example of that state of the frame which renders fever fatal and destructive in the higher ranks of life. In the latter the violence of the disease falls on the brain and nerves; and I know not of any malady more formidable than that which is vulgarly, but not inaptly, termed brain fever." In the first 15 years of the present century, when Europe was the theatre of war, we find fever more destructive than the sword. The *pestis bellica*, or *kriegspest* was, doubtless, typhus.

1817.—Dr. Murchison gives an excellent account of the formidable epidemic of 1817, derived chiefly, so far as Ireland is concerned, from the ample reports of Barker and Cheyne, and of Harty. Failure of the potato crop, wet seasons, starvation, preceded by a remarkable fall in the temperature, were the precursors of the outbreak of fever. About one-eighth of the whole population of Ireland was attacked; and in Dublin 70,000, or one-third, of the inhabitants. Dr. Murchison concludes that, though many cases of typhus were observed in this epidemic, relapsing fever was the prevailing type in Ireland and Scotland. The small mortality is conclusive on this point. According to Barker and Cheyne the mortality was 1 in 30½ in the Dublin hospitals, while in typhus it is generally 1 in 5. In Edinburgh it was 1 in 22. In reference to this epidemic, our author next speaks of the baneful practice of blood-letting, which may be traced to the theories of Ploucquet, Clutterbuck, and Broussais; and which, for many years, had such "an influence over the minds of physicians, if not over the bills of mortality." Our countryman, Mills, distinguished himself by being one of the first who followed Clutterbuck's precepts. Dr. Murchison, after examination of his cases, comes to the conclusion that not many were true typhus, but rather relapsing fever, enteric fever, ague, pericarditis, &c. Dr. Mills' statements, moreover, that his treatment was more successful than that of his non-bleeding colleagues was refuted.

Armstrong and Welsh advocated bleeding vigorously. It is worthy of remark, that one of the patients of the latter lost 136 ounces of blood at seven bleedings, and had 10 leeches applied. Dr. Murchison thinks all Welsh's cases were relapsing fever. The graphic description, by Dr. Stokes, of the bleeding in the old Meath Hospital, in his student days, is quoted; and this seems to have exceeded anything on record, for "the patients were seen wallowing

in their own blood like leeches after a salt emetic." The small mortality as compared with the epidemic of 1800, Dr. Murchison satisfactorily accounts for by the "substitution of a disease which is rarely fatal for one that is most mortal." The epidemic of 1800 was chiefly typhus; that of 1817 chiefly relapsing.

Even when bleeding was in high fashion, some, more sagacious than their fellows, condemned the extent to which it was carried. Dr. O'Brien, though recommending moderate bleeding in relapsing cases, contended that in typhus it was inadmissible, and recommended wine and stimulants.

1826-28.—This epidemic of fever visited the large towns of Great Britain, and consisted chiefly of typhus and relapsing fever. Dr. Burne, of London, considered the fever "adynamic." Referring to the bleeding of former years, he says:—"The extraordinary, I may, indeed, say wonderful accounts, resemble more the tales of romance and the fiction of sanguine imagination, than the sedate relation of medical facts."

So far as the epidemic in Dublin was concerned, Dr. O'Brien was of opinion that it arose from 20,000 artisans being thrown out of employment, and being destitute of the means of purchasing food. It appears that typhus and relapsing fever prevailed in this epidemic, and the latter particularly in Ireland; but that typhoid cases were also prevalent we learn from Dr. Stokes, who says, that perforations of the intestines were common.

As to the type of the disease at this time, Dr. Murchison observes, that a reviewer of the day stated, that both in London and Edinburgh, it was discovered in 1827, that cases of fever would not bear blood-letting; and this discovery was made seven years before the date assigned by Dr. Christison, to the so-called change in the constitutional type of fever. The relapsing fever seemed to have disappeared from Britain for 14 years after 1828, typhus being the form observed in the interval. In 1837, 11,085 cases were admitted into the Dublin hospitals; and in Glasgow, 5,387; while the total number of cases were estimated, by Dr. Cowan, at 21,800. The fever was unmistakably typhus; the concurrent testimony as to measly eruption and spots being decisive. In London, West observed that "the epidemic seemed to forbid venesection;" and Dr. G. A. Kennedy found "that in Dublin, in the great majority of instances, bleeding was not only inadmissible, but positively injurious." Dr. Murchison refers to the use of wine and other stimulants, and observes, that "the necessity for their employment was ably

advocated by Dr. Stokes." Following the course of epidemic visitations, our author next refers to the fever which prevailed in Philadelphia, in 1836, which Dr. Gerhard says was confined to the most crowded parts of the city, in which the poorest population dwelt. He next comes to the visitation of 1843, with respect to which we have the satisfaction to observe that Ireland neither originated the fever, nor did it extend to it from Scotland, in which it raged to a fearful extent. In Glasgow, $11\frac{1}{2}$ per cent. of the whole population was attacked.

1846-48.—This fever was of the relapsing form, and supervened upon great destitution. The epidemic which followed 1846-1848 is fresh in the memory of most of us, preceded, like many others, by failure of the potato crop, and consequent destitution among the lower classes in Ireland; it soon assumed a most formidable aspect, and extended, not only to the large towns of England and Scotland, but was carried by the tide of emigrants to the distant shores of the New World. In Ireland, it is calculated, a million cases of fever occurred; and in England, 300,000. Typhus and relapsing fever chiefly prevailed, but enteric fever was also present. We are able, from extensive opportunities of observing the epidemic in Dublin, to verify the statement of Dr. H. Kennedy as to the infrequency of the latter. The last outbreak of typhus, on a grand scale, to which Dr. Murchison directs attention is the epidemic which broke out in the Russian and French armies after the fall of Sebastopol. In the first six months of 1856, it is said, that of 120,000 French troops, 12,000 were attacked by typhus, and one-half died.

Typhoid fever was also prevalent; but the great epidemic was typhus. This is proved by the observation of Jacquot. That enteric fever was most frequent in the English army we learn from Drs. Lyons and Aitkin. Dr. Lyons says:—"Of the fevers prevalent in the army of the East, during the period of our investigations, the typhoid was, undoubtedly, the most important and the most fatal." Dr. Murchison observes, that there was a great increase of fever in London, in 1856; and on this occasion it was *not* of Irish origin; in 1858, '59, and '60, it became rare; and so it was also in Edinburgh; for Dr. W. T. Gairdner remarked, that so rare was typhus that he was unable sometimes, for a great part of a session, to exhibit to his clinical class a characteristic case of the disease. Unfortunately, we are never so circumstanced in Dublin.

Having brought his history of typhus to a close, the author draws the following conclusions:—

"1. Typhus prevails, for the most part, in great and wide-spread epidemics.

"2. These epidemics appear during seasons of general scarcity or want, or amidst hardships and privations arising from local causes, such as warfare, commercial failures, and strikes among the labouring population.

"3. During the intervals of epidemics sporadic cases of typhus occur, particularly in Ireland, and in large manufacturing towns of Scotland and England.

"4. Although some of the great epidemics of this country have commenced in Ireland, and spread thence to Britain, appearing first in those towns on the west coast of Britain where there is the freest intercourse with Ireland, it is wrong to imagine that all epidemics have commenced in Ireland, or that typhus is a disease essentially Irish. The disease appears wherever circumstances favourable to its development are present.

"5. In many epidemics typhus has been associated with relapsing fever, and the relative proportions of the two fevers have varied greatly.

"6. From the earliest times typhus has been regarded as a disease of debility, forbidding depletion, and demanding support and stimulation.

"7. The chief exception to the last proposition originated in the erroneous doctrines taught in the early part of this century, according to which the disease was looked upon as symptomatic of inflammation or congestion of some internal organs.

"8. The success believed at one time to follow the practice of venesection was only apparent. It was due to the practice having, for the most part, been resorted to in cases of relapsing fever and acute inflammations, and to the results having been compared with those of the treatment by stimulation of the much more mortal typhus.

"9. Although typhus fever varies in its severity and duration at different times, and under different circumstances, there is no evidence of any change in its type or essential character. The typhus of modern times is the same as that described by Fracastorius and Cardanus. The period during which epidemic fever is said to present an inflammatory type was that in which relapsing fever was most prevalent; and the times in which the type has been

described as adynamic have been those in which relapsing fever has been scarce or absent."

GEOGRAPHICAL DISTRIBUTION OF TYPHUS.

The geographical distribution of typhus is a subject of much interest. Dr. Murchison says that though it is in Great Britain, and still more in Ireland, that typhus has its peculiar *habitat*, the disease is not imported from the latter country to the extent commonly believed.

It is easier to enumerate the countries in which it is not to be found than those in which it prevails. Australia and New Zealand appear to be exempt; and, according to Dr. Morehead, typhus is unknown on the continent of India. The reports of typhus having been met with in Asia, Africa, and the tropical parts of America, are, probably, incorrect, and refer to adynamic remittent fever. That the soldiers of the army of the East brought typhus with them to France we know from Professor Godelier; and that there have been epidemics of typhus in France is beyond all doubt; but we cannot agree with our author that sporadic cases of typhus in France are mistaken for the more prevalent "*fièvre typhoïde*." That true typhus must be rare to an extreme degree in France is proved most satisfactorily by the fact that Trousseau, who is one of the last men in the world likely to be deceived upon any point connected with disease, thus writes, when making allusion to the vexed subject of the identity or non-identity of typhus and typhoid fevers:—

"N'ayant jamais eu l'occasion d'étudier le typhus au lit du malade, je devrais décliner ma compétence; toutefois, d'après l'idée que je m'en suis faite à la lecture des auteurs qui en ont traité, je suis porté à me ranger à l'avis des médecins Français et Américains qui proclament la non-identité des deux maladies."

Dr. Morehead describes an adynamic remittent of India which resembles bubonic plague, and which, according to him, like both plague and typhus, has "prevailed chiefly amongst the poor, in filthy, badly-ventilated houses and villages, and has been preceded by seasons of famine." The natives of tropical climes are often attacked by typhus on visiting infected localities; and Dr. Murchison has seen many Africans and East Indians labouring under the disease in the London Fever Hospital. The rash in these cases

was distinct. In the Philadelphia epidemic of 1836 Dr. Gerhard found that the majority attacked were mulattoes.

ETIOLOGY OF TYPHUS.

From the tables of Dr. Murchison, it does not appear that sex in itself has any influence in predisposing to fever. The proportion has varied in different localities; for example, in Ireland, according to Harty and Dr. G. A. Kennedy, the females preponderated, while in other countries the greater number who were attacked were males. Including all forms of continued fever received into the London Fever Hospital for 14 years, the little difference is remarkable—3,780 males, and 3,792 females. Again, with respect to age, we learn from Dr. Murchison's tables, derived from the admissions into the London Fever Hospital (3,456), that the mean age is 29·33. The two most common lustra for typhus are between 15 and 20, and 20 and 25; the youngest case observed was an infant under 12 months; the oldest a man of 84. The tables furnish the result of admissions for 14 years, with reference to the season; the conclusion arrived at is in unison with the experience of most epidemics, viz., that so long as the known causes exist, typhus appears to be uninfluenced by season; but the returns show that the greater number of admissions took place in May, and then diminished progressively to one-half in September. Referring to the predisposing causes, our author enumerates individual idiosyncrasy, intemperance, bodily fatigue, mental fatigue and depressing emotions, previous illness, recent residence in an infected locality, overcrowding, destitution, and starvation. Upon this part of our subject, we find Sir Henry Marsh thus writing of the causes which were found to exercise an influence in predisposing to the fever of 1825-26. After noticing the exemption of the soldiers of the garrison of Dublin from the prevailing disease, he says:—

“If we search after the origin of the now prevailing fever, we shall trace it to the united action of many causes:—

“1st. Insufficient and unwholesome diet.

“2nd. Deficient ventilation, which arises chiefly from want of fuel.

“3rd. Anxiety and depression of mind, arising particularly in parents unable to provide the necessaries of life for their children.

“4th. The poor, being ill clad, are exposed to the injurious influences of atmospheric vicissitudes.

"5th. The drinking of ardent spirits, which many who, when in employment, were not intemperate, from despair resort to.

"6th. All these *depressing* causes give increasing force to contagion, which without these would have been comparatively inert."

Dr. Murchison gives a table constructed from the register of the London Fever Hospital, by which he shows that typhus cases are derived from the most crowded districts. Of the predisposing causes of typhus, our author looks upon destitution and deficient alimentation as the most powerful. He believes that famine predisposes the constitution to the action of the specific poison at times when the latter would otherwise be inert. The important part which famine plays in the causation of fever is testified by the highest authorities; and our author is sustained by the observations of Bateman, in former times, and by Alison, Marsh, and Corrigan.

Alison considered that "the existence of epidemic fever is a most important test to the legislator of the destitute condition of the poor."

Dr. Murchison replies, at length, to the arguments of our learned contributor, Dr. Henry Kennedy, who, in an essay of singular ability, attempted to prove that epidemic fever is independent of famine. We must admit that Dr. Kennedy did not assign to famine a due share in the production of fever, although he does not exclude it from the predisposing causes "which have a tendency to lower the bodily health," and doubtless thus render it more liable to be influenced by contagion. In addition to adducing the fact that fever frequently makes its appearance where there is no deficiency of food—such, for example, as in gaols—a circumstance noticed by Dr. Harty in Dublin—Dr. Kennedy appeals to the circumstance that, after the failure of the crops in 1846, Ireland was "unusually healthy and free from fever;" but, observes Dr. Murchison, "he wrote on the eve of one of the greatest epidemics of typhus on record."

In strongly putting forward the influence of famine in predisposing to fever, the author does not by any means go so far as to state that he believes it is capable of producing fever; or, in the words of Dr. Corrigan, that "if there be no famine, there will be no fever."

Firmly convinced as we are that deficient alimentation is one of the most potent of the predisposing causes of epidemic fever, we have looked with sad forebodings at the three successive seasons of

comparative failure of the crops in Ireland; but the prospect brightens, and we confidently hope that this year will be one of unusual plenty.

As, strange to say, there is still division of opinion on the subject of the contagious nature of typhus, Dr. Murchison deems it necessary to devote a chapter to the arguments in favour of its communicability.

He starts with the following propositions:—

a. "When typhus commences in a house or district, it spreads with great rapidity.

b. "The prevalence of typhus in single houses, or in circumscribed districts, is in direct proportion to the degree of intercourse between the healthy and the sick.

c. "Persons in comfortable circumstances, and living in localities where the disease is unknown, are attacked on visiting infected persons at a distance.

d. "Typhus is often imported by infected persons into localities previously free from it.

e. "The contagious nature of typhus is indicated by the success attending the measures taken to prevent its propagation, more especially the early removal of the sick."

The foregoing propositions are supported by a mass of irrefragable evidence; and we could supply from our own, and from the experience of other Irish physicians who are daily engaged in the treatment of fever, numerous additional facts. The records of our hospitals tell a sad tale of deaths from typhus among the attendants on the sick—physicians, clinical clerks, and nurses.

For ample information on this head we refer to a former volume of this Journal—(Vol. IV., p. 134):—"On the Mortality of Irish Medical Practitioners from Fever in Ireland," by Drs. Cusack and Stokes. The object which induced these distinguished and philanthropic members of our profession to undertake the painful duty of chronicling the deaths was to bring under the notice of the Government a correct statement of the average mortality of the medical men in Ireland. They hoped thus to induce the Government, with a full knowledge of the risk attendant on the duties, to assign a liberal scale of remuneration for attendance on fever hospitals. Of 1,220 medical men who were attendants on 406 medical institutions during a period of 25 years, 300 have died—nearly *one-fourth* of the whole. In the Irish epidemic of 1817-19, 40 physicians took the disease in the province of Munster. Dr

W. T. Gairdner, writing of the epidemic of 1847-8 in Edinburgh:—
“In no single instance known to me did a nurse, who had not had fever previously, remain for six weeks attached to a fever ward without catching the disease.”

Dr. Christison states that during a period of 32 years he and two of his colleagues attended 280 medical students in fever contracted in the infirmary or fever hospital.

Dr. Murchison considers that the poison is contained in the cutaneous and pulmonary exhalations of the sick; and in this opinion we concur. The writer of this review has a vivid recollection of the manner in which he contracted typhus. In going his rounds in the fever hospital, early in the morning, and not being in very flourishing health at the time, he was engaged in examining the chest of a patient labouring under true typhus. While thus employed the patient was seized with cough, and the auscultator received a violent expiration. It so happened that the sick person's breath must have been inhaled. The odour was intolerably offensive, and the remembrance of it remained firmly impressed on his mind. He was conscious that he had imbibed the poison; and on the third day he manifested the usual symptoms which usher in the disease. With respect to the peculiar odour from the sick, we may refer to the late Dr. Montgomery's letter, published in Sir Henry Marsh's essay *On the Origin of Fever*, giving an account of the manner in which he caught fever. He writes, that in closely examining a fever patient, he was sensible of a very disagreeable odour from the skin. At the moment it made a considerable impression on the sense of smell, being almost as pungent as the odour from an *ammoniacal salt*. This observation is interesting in connexion with the recent theories as to the nature of the typhus poison, and its supposed identity with ammonia. According to Liebig, Simon, Scherer, Viale, Latini, and Richardson, the typhus poison is a compound of ammonia; and Gerhard has observed that patients who emit the strongest odour are most likely to communicate the disease. The question of the power which fomites possess of transmitting the poison of typhus is discussed, and reference made to the writings of Pringle, Lind, and Bateman, and to the more recent observations of Barker and Cheyne, and also of Jacquot on the Crimean typhus. The case of the Egyptian vessel, the *Scheah Gehead*, is also alluded to, and the fact mentioned of the seamen having propagated fever, by means of their persons and clothes, though they did not then labour under the disease.

According to Dr. Murchison's experience, the latent period of typhus is about nine days, but it may vary from a few hours to 12 days. Different writers have assigned different periods for the incubation of the disease. Bancroft, one day to five or six months. Sir Henry Marsh has recorded several cases in which the poison appeared to act almost instantaneously. Much difference of opinion has prevailed as to the period when the disease is most infectious. Dr. Perry, of Glasgow, thought the disease not contagious till the ninth day, perhaps not till later. Dr. Murchison thinks from the end of the first week up to convalescence; or, in other words, when the peculiar odour from the skin is strongest.

The question of immunity from second attacks of typhus is one of much interest to the physician. Our author cites many authorities to support his view of the case, which we, from large experience, fully concur in, viz., that second attacks of true exanthematic typhus are very rare. The exceptions to the general law are not numerous, but some are recorded on undoubted authority. Dr. Murchison himself tells us that he had typhus fever twice, and that the characteristic eruption was well marked on both occasions. We believe that in some reported instances of second attacks of typhus the term was applied to continued fever, without distinguishing the form from another.

Dr. Murchison believes in the spontaneous origin of typhus in many instances; and we think there is abundant evidence to prove the accuracy of the opinion. In 1836, an epidemic of typhus broke out in Philadelphia:—"Amongst the very first cases were seven negroes, the entire population of a cellar."

In the year 1859, typhus, which was absent from Edinburgh, appeared, and there was no reason to suppose it had been imported. Dr. W. T. Gairdner examined the localities, and he found the cases occurred under circumstances of extreme over-crowding and deficient ventilation. Dr. Murchison gives a number of cases, investigated by himself, which were received into the London Fever Hospital, and which tend powerfully to establish the effect of over-crowding. The history of gaol fever abounds in examples of the effect of over-crowding. In 1815 Dr. Harty showed that typhus was generated in our prisons.

Passing over the early accounts of the gaol fever, we find, in modern times, a verification of the doctrine. In 1854 fever broke out in the gaol at Strasbourg; and Forget, who, writing in 1841 on the common fever of France, had never seen a case of typhus,

immediately recognized the disease as new, and communicated to the Academy proofs of the non-identity of typhus and typhoid fevers.

Having adduced proofs of the power of over-crowding from the examples of ship fever, military fever, hospital fever—other names, be it observed, for typhus—Dr. Murchison concludes the subject of the etiology of typhus thus:—

“ 1. Typhus is due to a specific poison.

“ 2. This poison is communicated from the sick to the healthy, through the atmosphere, or by fomites; but is rendered inert by free ventilation.

“ 3. The poison is also generated ‘*de novo*’ by over-crowding and bad ventilation.

“ 4. The great predisposing cause of typhus is defective nutrition.”

SYMPTOMS OF TYPHUS FEVER.

Doctor Murchison gives a typical case of typhus, and then proceeds with an analysis of the symptoms. The physiognomy is first described; then the morbid phenomena referable to the skin. The title of typhus to rank as an exanthem appears to us to be good. Dr. Murchison says:—“ On its first appearance the eruption is undoubtedly a true exanthem, due to hyperemia of the cutaneous capillaries; but in most cases, sooner or later, an escape of blood pigment into the cutis is substituted for the hyperemia.” The frequency of the eruption is calculated by Dr. M., from observations at the London Fever Hospital spread over 10 years; it was absent in 11·5 per cent. In 1856 90 cases were noted; and in all but six the eruption existed. Jacquot observed spots in 152 of 159 of the Crimean cases. The presence of purpura spots and vibices is noticed; and their frequency, when typhus and scurvy coëxist, as was the case in the Crimea. The occasional presence of sudamina and herpes is noted. There is a form of eruption which we have observed in a solitary case of typhus fever, of which we have never seen any notice in systematic works on fever, and which must be of extreme rarity. The case in which the eruption we allude to occurred was that of a physician, who contracted fever in the discharge of his duties as a dispensary attendant, in a remote part of Ireland. He travelled to Dublin, labouring under the disease—a circumstance which may be looked upon as eminently calculated to impress an unfavourable character on the case. There was nothing peculiar in the eruption until two days before the fatal issue. The spots were numerous, and had early assumed a petechial character; but, at the time indicated, Dr. Mayne and ourselves detected the

presence of a few papulæ, which soon increased in number, and, finally, became vesicular. We immediately recognized their resemblance to the spots which we had often seen in glanders and other forms of diffuse inflammation. Dr. Murchison, in his observations upon the symptoms referable to the circulatory system in typhus, gives full credit to Dr. Stokes for his valuable observations on the state of the heart in typhus:—"It is to Dr. Stokes that the profession is indebted for pointing out the cardiac phenomena of typhus."

Under the head "*Morbid Phenomena of the Respiratory System*," the author refers to the important observations of Dr. Corrigan on cerebral breathing—a form of respiration which, according to this accurate observer, precedes the advent of coma, and which is distinguished from the breathing in bronchitis by the absence of any evidence of obstruction in the tubes, and also by the absence of the characteristic lividity of the face. In the cerebral breathing the countenance remains pale or natural, or becomes high-coloured.

With respect to the expired air, the diminution of carbonic acid, and the increase of ammonia, claim attention.

For the first fact, the carefully conducted experiments of Dr. A. G. Malcolm, of Belfast, on 50 cases of typhus, are quoted; and for the latter, the researches of Drs. Reuling and Richardson.

The morbid phenomena referable to the digestive organs are described. We shall only refer to one point—namely, the presence of intestinal hemorrhage. In 1,000 cases noted by the author it did not occur; and the same is true of 2,000 of Dr. Jenner's cases; but, rare as it is, we have seen it in true typhus; and Dr. Tweedie, of the London Fever Hospital, has observed a case in which it was fatal. Dr. H. Kennedy, however, records 30 cases, and in no fatal case was there intestinal ulceration.

The examination of the urine is always looked upon as a most important part of the investigation of a case of fever. It is within the experience of most physicians who have seen much of fever that symptoms of uremia precede death in some cases, and in a considerable number of such no organic renal disease exists. Dr. Murchison even thinks that "these symptoms, so characteristic of typhus, are in a great measure due to the presence of urea, or its derivative, carbonate of ammonia." The presence of albumen in the urine, in severe cases of fever, is, doubtless, due, in general, to the same cause which gives rise to petechiæ—viz., the morbid state of the blood; but in some instances it is not due to mere hyperemia,

or to a liquified condition of the blood, but to either preëxisting renal affection, or to the fact of the kidneys having become diseased in the progress of the fever. That the convulsions which occur in typhus, or in any of the exanthematic fevers, have a uremic origin seems more than probable.

We can corroborate, from our own experience, the accuracy of Dr. Murchison's observation, that "although albuminuria is the rule, it is not invariably present when convulsions occur in typhus."

The morbid phenomena presented by the nervous system in typhus are worthy of the closest study. Dr. Murchison gives the result of his own experience, and that of others, as to their frequency. He has found, as Irish physicians have observed, that the upper ranks are more liable to delirium than the lower; that it is earlier, and more marked. Of the cases noted by the author in the London Fever Hospital, the mental faculties were impaired in 86.6 per cent. As to the period when delirium commences, of 1,005 patients observed by Barrallier, at Toulon, the delirium appeared during the first week in 371; during the second, in 602; and during the third, in 32.

Dr. Murchison has noted wakefulness to a greater or less extent in 78 out of 92 cases. The headache he has found in general to cease before the advent of the delirium, "a feature of no small importance as regards diagnosis from cerebral inflammation."

The typical forms of delirium are faithfully described. In noticing the "delirium ferox," and the suicidal tendency which at times exist, the case of a patient mentioned by Barrallier is quoted, who, in his attempt to amputate the penis, inflicted a deep wound in the hypogastric region. There is a form of delirium occasionally met with in fever which is unlike any of the ordinary phases described, and much more rare than the merely acute, noisy delirium, which manifests itself in screaming and shouting, and attempting to get out of bed. In the form we allude to, superadded to the usual symptoms, there is extreme violence and destructiveness, and, in short, a state closely resembling acute mania.

We lately attended a gentleman who presented this form of disease to such an extent as to lead to the belief at first, on the part of his family, that the case was one of insanity, and not of fever. In this instance the delirium commenced at an unusually early period; and so extreme was the violence that the relatives expected that the patient would be at once sent to a lunatic asylum. Several times he struck both his father and mother, and it was with great difficulty,

the aid of strong men, that he could be prevented from getting out of the window. For a considerable period after the mad passed away he showed signs of mental aberration. His memory was most defective, and he frequently made mistakes as to the identity of individuals. This case ended in complete recovery, and we have found to be the termination of all cases of mental derangement continuing after, or supervening on, typhus, which have come under our observation. The experience of our author on this point coincides with our own.

Murchison gives an interesting account of his own ravings during the fever, and refers to the reports of others who retained a recollection of their sensations. We know of no delusion more strange than that under which we ourselves laboured in fever, and which consisted in a false possession of the mind—viz., a belief in being pregnant; and it may be well conceived, this became a source of much trouble. The extended statistical tables of Dr. Murchison afford valuable information as to the duration of typhus. The mean duration in 53 uncomplicated cases he found to be 14·13 days. A little longer, or about 14 days may be set down as the duration of typhus, in some examples of rapidly fatal cases; and in others, in which the disease, remarkable for its shortness, has been mild in its character. In his chapter on the complications and sequelæ of typhus fever, Dr. Murchison calls attention to the points of resemblance between our fever and the eastern plague, and observes:—

"Typhus may be as speedily fatal as true plague; it is occasionally, however, complicated with buboes, which, though not pathognomonic of the disease, are, as far as my knowledge extends, much more common in typhus than in any other febrile disease, excepting plague; while, in 'typhus Siderans' of Torgan and Mayence they seemed to have commenced as early as in plague. Many writers state that the one affection passes into the other, and sometimes it was difficult to say whether it was typhus or genuine plague."

In the diagnosis of typhus is dwelt on, and the diseased states which simulate it pointed out.

Dr. Murchison has adverted to the resemblance the mental state bears in some cases to acute mania, and Dr. Murchison says that it is only by the presence of the rash, or the exposure of the patient to the light, or of typhus, we can distinguish this disease from meningitis. In some known cases of uremia from kidney disease sent to the Hospital as typhus, the absence of rash being the only circumstance which excited a doubt of the correctness of the diagnosis.

The tables of Dr. Murchison afford much information as to the rate of mortality in typhus. Of the cases of typhus admitted into the London Fever Hospital, in four years and a-half (4,787), 1,000 died, being 1 in 4·78. But deducting the cases which were moribund on admission, and which died within 48 hours, it falls to 1 in 5½. Thus, he says, it may be assumed, from the records of the disease, that one out of every five cases attacked will die. The mortality is greater among males than females; and, as to age, it was found that of the cases which recovered, the mean age was 26, that of the fatal cases was nearly 42.

Dr. Murchison sums up the symptoms and complications which indicate danger in typhus with accuracy and truthfulness. Among the complications from which the greatest danger may be expected, he says, are pulmonary hypostasis and bronchitis, pneumonia, gangrene of the lungs, convulsions, pyemia, erysipelas, parotid and other inflammatory swellings, bed sores, gangrene of the extremities and the mouth, renal disease, and scurvy. Finally, he notices the fact of the gouty diathesis from its frequent accompaniment with renal disease being a most unfavourable circumstance; and makes the important observation that he has never known a gouty person attacked with typhus recover.

PREVENTION OF TYPHUS.

Admirable rules are laid down for preventing the generation of the typhus poison; and in periods of scarcity, and during the prevalence of typhus, he recommends, instead of supplying relief in their crowded dwellings to the poor, to erect temporary buildings or tents in the vicinity of large towns. The expense, he considers, would not exceed what the spread of an epidemic always entails. Overcrowding in the town would be thus prevented, and the poor would be supplied with food and fresh air. At the same time we would urge the necessity of caution in collecting large masses of people together during the prevalence of epidemics; for, as is forcibly put by Dr. Graves, we believe this to be a certain method of causing contagious disease to spread. Speaking of cholera, which he believed to be contagious, Dr. Graves says:—

“In the above-mentioned years of public calamity (1846 and 1847), fever so fast followed on the footsteps of famine that some persons thought the former was the natural consequence of the latter; whereas the unusual prevalence of fever in those years arose, not directly from the want of food, but indirectly, from the opportunity the contagion had.

acting persons brought together to partake of the measures of relief.

. . . In truth, wherever large numbers of starving persons are led to receive food it is a mere matter of accident what contagious disease may become prevalent among them. It may be fever, it may be cholera; or it may be small-pox, if the nation consists of persons unprotected by vaccination, as occurred in the lamentable famine at Gujerat, in 1812, when the small-pox broke out in the midst of the multitudes assembled for the purpose of receiving rice—and, in a few months, very nearly depopulated the country.”

TREATMENT OF TYPHUS FEVER.

The treatment of typhus fever is next to be considered. Dr. Murchison first considers the hygienic treatment; and, having given some useful directions on this head, he then proceeds to the medical; but before entering on what he terms the “rational mode of treatment,” he discusses several modes which have been recommended. As to *blood-letting*, he thinks that none of its supporters would have recourse to it now. With respect to the evolutions of modern practice, he considers they have been erroneously attributed to change of type, and they are due in point of fact to change of disease, or, in other words, to confounding typhoid fever and typhus.

Alcoholic Stimulants.—The practice of administering stimulants, which was followed by the best practitioners of the last century, has been reestablished for the last 30 years; and the revival of their use, Dr. Murchison correctly states, is mainly due to the teaching of Alison, Graves, and Stokes. He, with good reasons, however, fears that the administration of stimulants may be carried too far; and well he may, when we find upwards of 48 ounces of brandy given within 24 hours, forgetful of the fact that alcohol is a poison. Our author differs from the late Dr. Todd as to the action of alcohol, adhering to the old view that it is a stimulant, not as food, it acts beneficially. We cannot refrain from giving in our adhesion to this view, albeit at variance with our distinguished countryman; and, in support of it, we would refer, to sound practical observations on alcoholic stimulants, to Dr. W. Airdner's *Clinical Medicine*.

Cold Affusion.—After some observations on the history of the practice, and the neglect which it has fallen into, Dr. Murchison says—“There is no evidence that the cold affusion ever cut short a case of true typhus; but it is, probably, a powerful remedy for mitigating symptoms, and too much neglected in modern practice.”

We know, from frequent observation of its effects, that a modification of the cold affusion is a remedial measure of great value; we allude to sponging the surface, and pouring cold water on the shaven head, from a watering-pot *with* a rose, not without one, as recommended by Dr. Southwood Smith.

Dr. Murchison accounts for the present neglect of the cold affusion in fever by "the natural aversion of medical men to anything approaching a system of quackery, which makes the water-cure a *panacea* for all diseases."

There is another remedy which has got the credit of cutting short continued fever, namely, quinine; and this, no doubt, from the error of confounding our typhus with the adynamic remittent of the tropics. Some physicians who have tried it speak favourably of its use; but our author informs us that, as clinical clerk to Dr. Bennet, he had an opportunity of watching his cases, and that he can confirm the unfavourable opinion formed by him. In the Crimean typhus it had a full trial, and was found not merely useless, but dangerous. Dr. Corrigan afforded a physician who had practised in South America an opportunity of testing its efficacy, and it was found to fail in arresting the disease; and—what must be a fatal objection to its use—it occasionally produced great irritation of the mucous membrane, and a *very depressing* effect upon the pulse. It has been noticed by some, that in addition to producing great depression, it has exasperated the cerebral symptoms. The result of our own experience of this agent is—that a further prosecution of experiments on its action in typhus is as unnecessary as it is unwarrantable.

Emetics have been extensively used in the early stage of fever, and by some as an abortive remedy. That they are useful sometimes, we are free to admit; but we are inclined to go farther than the author, who is *doubtful* as to their ever having cut short typhus, and affirm that they *never* have.

Touching *Purgatives*—having seen numerous cases in which extreme prostration followed the purgation to which patients are often subjected to by *active* practitioners before their admission into hospital, we regret we cannot agree with Dr. Murchison that the practice is now "obsolete."

Mercury has been employed both with the view of arresting the febrile process, and also as a remedy in the course of the disease. In Germany it has been given in scruple and half-scruple doses, by Schönlein and Traube. Wunderlich has given it an extensive trial,

but chiefly in enteric fever. Of the two typhus cases in which calomel was administered, he says:—"Von denen einer starb, während der andre einen nicht abgekürzten, aber mässigen Verlauf der Krankheit zeigte." Having disposed of the "heroic remedies," Dr. Murchison proceeds to the "Rational method of treatment," premising that he does not believe in any specific.

Our objects in the treatment of typhus, Dr. Murchison says, should be:—

- "1. To neutralize the poison, and to correct the morbid state of the blood.
- "2. To eliminate the poison and the products of the destructive metamorphosis of tissue.
- "3. To reduce the temperature.
- "4. To sustain the vital powers, and to obviate the tendency to death.
- "5. To relieve distressing symptoms.
- "6. To avert and attack local complications."

Under the first head the author gives us the result of his own experience of the value of mineral acids in many hundred cases; and, without ascribing to them the wonderful efficacy which some writers do, he looks on them as most valuable. Whether they act as antidotes, alteratives of the blood, or as tonics, their beneficial influence is undoubted. At all stages he recommends the acids. From the days of Sydenham they have been held in high repute, but Huss and Haller, on the Continent, and Drs. Mackenzie, Chambers, and Richardson, at home, have, in a great measure, revived the practice.

Huss, believing that phosphoric acid has a special influence on the brain, prefers it to any other acid; but our author gives a mixture of acids—20 drops of hydrochloric acid and 10 of nitric acid—every third hour. When the "typhoid state" is pronounced, he gives 15 to 20 drops of dilute sulphuric acid, with small doses of quinine and ether. He thinks the remedies recommended as antiseptics or correctives of the blood are inferior to the acids.

With a view to the elimination of the poison and the products of metamorphosis of tissue, he adds five grains of nitrate of potash; or, in the advanced stage, nitric ether to the nitro-muriatic acid.

Tea and coffee are also spoken favourably of as "expergeficients." Dr. E. Percival first recommended green tea in comatose affections, and particularly in those of typhus; and Drs. Stokes and Graves added their testimony as to its value.

Many years since chloride of sodium was strongly recommended in fever, and also in cholera, by our venerable friend, Dr. Robert Reid, of this city; and Dr. Murchison is in the habit of directing large quantities of salt to be added to the beef-tea of his patients, by whom it is relished, and in some cases it appeared to him to be beneficial.

The action of the bowels is to be kept up by emetics and laxatives, according to our author; he says we should begin by an emetic of ipecacuanha (one scruple) and antimony (one grain), or of carbonate of ammonia (two scruples), followed, if the bowels remain confined, by a mild laxative of rhubarb and calomel, or castor-oil, or a simple enema. We recommend that if the emetic be administered, it consist of ipecacuanha or carbonate of ammonia, and that the tartar emetic be omitted. We shall have to say a word on the use of tartar emetic again, in another place.

We also think it would be better to omit the calomel; and indeed our author seems to have some misgivings himself on the subject, for he says:—"In most cases a small dose of castor-oil or a simple enema is all that is required."

If we turn to Dr. Corrigan's lectures on fever, which we look upon as the safest guide with which we are acquainted for the young physician, we find him saying:—"It is seldom necessary to administer aperients; the bowels are generally spontaneously moved once or twice a-day. The objection that would apply to the frequent use of aperients does not apply to enemata; if they cause irritation they are expelled without extending a continued irritation over a large surface." Our own practice as to the regulation of the bowels is very simple indeed. If the bowels are not moved spontaneously, we direct an enema of warm water, which we almost invariably find sufficient to solicit the bowels to act.

Dr. Murchison makes some judicious remarks upon diet in fever observing that the tendency now-a-days is rather to over-feed than starve fevers, and reprobating the custom of forcing food down the throat every half-hour, or more frequently.

The next subject is, perhaps, the most important of all in the treatment of typhus, namely, the administration of stimulants. He most properly observes that it is impossible to lay down any rule which will be universally applicable; but the following observations he offers for the guidance of the practitioner:—

"a. Some cases, under a supporting diet and the mineral acids, do well without wine or brandy at any stage.

"b. During the first five or six days wine is required but in few cases. Most cases require a greater or less amount at some time during the second week ; and, as a rule, it is good practice to commence the exhibition of stimulants about the seventh or eighth day.

"c. The chief indications for the administration of wine are derived from the organs of circulation.

"d. Extreme softness and compressibility of the pulse—an irregular, intermitting, or imperceptible pulse—are greater indications than mere rapidity.

"An abnormally slow pulse (*e.g.* 40 to 60) is occasionally a stronger indication for stimulants than a quick pulse.

"If the pulse becomes quicker, and the face flushes under the use of stimulants, they are contra-indicated ; if the pulse is made slower they may be expected to do good.

"e. Stimulants are not required when the cardiac impulse is good. When the impulse is weak, and when the first sound is impaired or absent, a liberal allowance is demanded. We must not trust entirely to the pulse. Radial pulse may be distinct, with diminished or absent impulse and first sound.

"f. Stimulants are always demanded when a tendency to syncope, or a great diminution in the strength and volume of the pulse is produced by raising the patient to the semi-erect posture.

"g. *Ceteris paribus*—stimulants are more necessary the darker and more copious the eruption. Numerous petechiæ are an indication for stimulants.

"h. A burning and dry skin is in itself an indication against alcohol ; whereas profuse perspiration, with no cotemporaneous improvement in the general symptoms, calls for an increased supply.

"i. Coldness of the extremities is an indication for alcohol. The increased heat which follows its use is not necessarily due to the chemical transformation or combustion of the spirit, but to the increased circulation and diminished evaporation from the skin.

"k. The more the case presents the characters of the typhoid state (*i.e.*, stupor, low delirium, tremor, subsultus, and involuntary evacuations) the more will stimulants be required.

"l. Scanty urine, of low density, containing little urea or much albumen, and complete suppression of urine, are in themselves indications against a large supply of spirits.

"m. Delirium must not be regarded as of necessity indicating alcoholic stimulants. The state of the pulse indicates the propriety. If the patient becomes more restless and delirious they do harm ; if he becomes more tranquil, they do good.

"n. Alcohol, as a rule, is contra-indicated if there be severe darting or throbbing headache, or acute noisy delirium ; especially when these

symptoms coëxist with great heat and dryness of skin and suffusion of the eyes, and with little or no impairment of the cardiac and radial pulse.

“*o.* A brown dry tongue is an indication for brandy and wine, rather than otherwise. If the tongue becomes clean and moist at the edges it is a sign that the alcohol is doing good.

“*p.* The presence of complications, as a rule, increases the necessity for stimulants; and certain complications, as pyemia, erysipelas, bronchitis, pulmonary hypostasis, pneumonia, inflammatory swellings, bed sores, and local gangrene, usually demand large quantities.

“*q.* Stimulants are required earlier, and in larger quantity, by persons who have led intemperate lives and of advanced years.”

The selection of the kind of stimulant is a matter of much moment sometimes, and it is not easy to give general rules; but we may advise the practitioner to be guided by the habits of the patient. Dr. Murchison is not certain that wine possesses any advantage apart from the alcohol it contains. In persons who have led temperate lives, and in the young, we rarely find it expedient to resort to spirits; but among our hospital patients we are constrained to give spirits in addition to wine, or to trust to it altogether—the wine being inefficient. Our author gives a caution, which is most valuable, and one which we have long been in the habit of impressing, viz., the necessity of carefully guarding against the patient in fever being neglected during the night, and towards morning. It is at this period the nurse is most likely to refrain from the administration of wine; or it happens occasionally that the stimulants have been expended before the early morning, when “the powers are at the lowest ebb.” We are sure the observation is well founded, that “many patients are undoubtedly lost from negligence of their attendants at this time.”

In our own practice we have not been accustomed to give the monstrous quantities of wine, and brandy, or whiskey which we hear of; and we are, therefore, inclined to agree with the author that the cases are exceptional which require 16 ounces; but, unlike his experience, it has been our lot to meet with cases which required more. Doubtless they are few; but we would err, indeed, if we laid down any dogma, limiting the wine or spirits to any particular number of ounces. This must be judged at the bed-side of each individual patient.

We would be inclined to say of wine what our author says of food—the tendency of modern practice is to overdo the wine rather

than to be under the mark. For the benefit of our inexperienced readers we shall give Dr. Corrigan's advice connected with this subject:—"Do not confide its administration, with vague directions as to quantity, to an ignorant nurse or to over-anxious friends. I have seen wine given, under such circumstances, in most mischievous excess, fatal coma being the result."

The addition of medicinal stimulants will be generally required; and we believe, with the author, that the different etherial preparations are to be preferred to carbonate of ammonia, which, according to the experience of Drs. Kennedy and Lyons—and we may add our own—is likely to produce irritation of the bowels. With the ether the author combines small doses of quinine or liquor cinchonæ.

To relieve headache we are recommended, after the administration of an emetic and securing the action of the bowels, to apply cold; but, if the headache is intense, with flushing of the face, redness of the conjunctiva, dry hot skin, he directs the head to be shaved, and a bullock's bladder, filled with ice, to be tied over it. In the intense headache of the young and robust he has been tempted to apply from two to four leeches, and their application has been followed by permanent relief.

In the first place, we would advise the physician not to wait until the headache is intense before shaving the head; the mere removal of the hair, and the application of cold—or, better, the pouring tepid water or cold water from a watering pot on the head, will often *prevent* the severe symptoms mentioned; but if they set in, we never hesitate to apply leeches. One recommendation of Dr. Murchison's we must strongly condemn—namely, that a bullock's bladder, filled with ice, is to be tied over the scalp. This we look upon as a barbarous mode of applying cold; and, if incautiously allowed to remain too long, likely to do much harm. Our author, indeed, further on, speaks of the depressing effect of cold on aged persons, and advises warm fomentations, following the directions of Dr. Graves.

The treatment of sleeplessness, excitement, and delirium is of the utmost importance. Admitting that the cerebral symptoms are independent of inflammation, we, nevertheless, are persuaded that the abstraction of a little blood by leeching (three or four) is one of the best means of procuring sleep. We have seen a patient who had been sleepless for one or two nights, fall asleep while two leeches on each temple were doing their duty. We fully coincide with the author that "the employment of opium in typhus is more

dreaded than it ought to be." We have recourse to it frequently with advantage, impressed, however, with the necessity of caution in its use, and with the propriety of refraining from its employment when lividity of the face, and other evidence of venous congestion, are present.

Dr. Murchison tells us he can confirm Dr. Graves' observation as to the occasional utility of belladonna as a sedative and soporific in cases of typhus, with contraction of the pupil. Henbane is mentioned, on the authority of Dr. Corrigan, and chloroform on the recommendation of Drs. Corrigan and Gordon, as substitutes for opium; but our author does not express any opinion as to their value. He thinks that musk and camphor have fallen into unmerited neglect. Gerhard and Huss testify to their great utility. Graves recommended them in combination with opium and tartar emetic; of the latter half-grain doses. Dr. Murchison, although bearing testimony to the value of tartar emetic and opium in typhus, under certain circumstances, does not go quite as far as our countryman. "When the delirium approaches to typhomania, or delirium tremens, the radial pulse is usually quick and feeble, the cardiac impulse diminished, and the first sound of the heart more or less inaudible." Here antimony appears to be contraindicated, and our main reliance must be placed on opium, in combination with alcohol and other stimulants. Dr. Graves recommended antimony and opium even in cases of this nature; and, in fact, whenever sleeplessness and delirium of any sort in typhus coëxisted. We thoroughly coincide with the author as to the contraindications; but we cannot agree with him even in his modified praise of tartar emetic in fever. He seems himself to have a wholesome terror of tartar emetic; for he says:—"The patient should be seen by the medical man *at least* three or four times in the day, as the symptoms may change, and require a corresponding alteration of treatment."

Tartar emetic we look on as a most dangerous remedial agent in typhus fever, which is a disease of debility, demanding stimulants frequently, even from an early period.

In Ireland, at least, tartar emetic has had its day. In truth, we do not know of any hospital physician in Dublin who administers it in typhus; and we should not refer to it if Dr. Murchison had not, to a certain extent, sanctioned its use. It ought to be sufficient indication of its having fallen into deserved disuse to mention that it is not even named by physicians whose experience in this disease is derived from the most extensive observation.

The mode of treating the state of stupor, tending to coma, pursued by our author deserves the best attention of the practitioner—elimination, particularly by the kidneys, stimulants to support the heart, strong coffee, dry cupping and mustard-poultices to the loins. He also thinks we may take a leaf out of the hydropathist's book, and apply the "wet compress" to the loins, particularly when the urine contains blood or albumen. As stimulants to the external surface, vesicating fluids are considered preferable to blisters; and we are of the same way of thinking; but we never apply either to the nape, always selecting the vertex and the forehead—parts not subject to pressure. The douche is recommended by Dr. Todd; which, according to him, "sometimes acts like a charm;" but it is only applicable in cases in which the lethargic state supervenes early, and before there is great exhaustion.

Of essential oil of valerian, and of phosphorus, Dr. Murchison has no experience. The valerian has been given by Barrallier in 172 cases, of which 135 were successful, 24 unsuccessful, and 13 doubtful. The dose was one minim every half hour, until five or eight minims were taken.

"Des individus plongés dans une profonde somnolence, dont rien ne pouvait les tirer, insensibles à tout ce qui se passait autour d'eux, après avoir pris le matin l'essence de valeriane, étaient le soir reveillés, répondaient aux questions qu'on leur adressait, et ce changement était si imprévu, si étonnant, que plusieurs fois, j'ai entendu les personnes qui suivaient mes visites prononcer le mot de *resurrection*."

Phosphorus (1-12th gr.) is recommended by Huss in the torpor and prostration of fever; but only when no delirium exists. Of the complications of fever bronchitis is the most common; and the directions Dr. Murchison gives as to treatment comprise the remedies which we have ourselves found efficacious—dry cupping, turpentine stupes, sinapisms; and, internally, turpentine. He also advises that alcohol and wine be given freely in those cases in which the air tubes are blocked up, owing to paralysis of the muscles of expiration. In such cases we have found brandy or whiskey much preferable to wine. There are exceptional cases, we are told, in which tartar emetic may be given with great benefit, "when the patient is strong and robust, and the pulse of good strength;" but he proceeds to caution us against using it when extensive bronchitis and hypostatic engorgement exist; for he observes, "antimony would only hasten the fatal termination," and we confess it does

not fall within our experience to meet with patients in any stage of typhus, with or without bronchitis, who are, "strong and robust."

When pneumonia exists, as a complication in typhus, the symptoms, our author tells us, "are of such an adynamic character that depletion and antimony are out of the question; the latter is only permissible under circumstances similar to those where it has been recommended in bronchitis." In our humble opinion tartar emetic is *never* permissible in the pneumonia of typhus. Stimulants, expectorants, turpentine, and acetate of lead are spoken favourably of; the latter has been found a valuable remedy by Strohl, of Strasbourg, and Dr. Bell, of Glasgow. No mention is made of the treatment by quinine, which we have no hesitation in recommending as the best.

Blistering the scalp, purgatives, saline diuretics, dry cupping over the kidneys, and the hot air or vapour bath are recommended when convulsions occur. The closest attention to the state of the bladder is also necessary. When tympanitis is present terebinthinate enemata and stupes are directed; and, in the event of their failure, turpentine, with sulphuric ether, internally. Excellent directions are given as to the avoidance of bed-sores, and their treatment when they occur. Erysipelas Dr. Murchison treats by stimulants, and muriated tincture of iron, and chloric ether (15 minims of the former and 10 of the latter, every three hours). When, in erysipelas of the face, the throat becomes affected, the nitrate of silver solution, or mur. tinct. iron, diluted with an equal quantity of water, should be applied. "When suffocation is imminent, from obstruction of the rima glottidis, tracheotomy holds out the only—although very slight—chance of saving life." We believe life might be more frequently saved than it is, in cases where the symptoms of œdema of the glottis present themselves in fever if the operation were performed at an earlier period. We have seen, within the last few days, a man who was operated on by Dr. M'Dowell, in the Hardwicke Fever Hospital, 15 years since, and who is still obliged to wear the tube.

Referring to the mental imbecility and mania, which are occasional sequelæ of fever, Dr. Murchison mentions that "it may be necessary, occasionally, to subject the patient to temporary confinement in an asylum." But knowing, as we have already stated, that the mental aberration is generally of short duration, we look upon this suggestion as injudicious.

(To be continued.)

PART III.

MEDICAL MISCELLANY.

Reports, Retrospects, and Scientific Intelligence.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.*

TWENTY-FIFTH ANNUAL SESSION, 1862-1863.

MR. HAMILTON, President.

Cancer of the Stomach.—DR. MAYNE said, the subject of his present communication was a female who was admitted into the Adelaide Hospital on the 1st of the present month. She gave her age as 35, but certainly looked a good deal more—she would have been taken to be from 40 to 50 from her appearance. The most prominent point of her case was the existence of an abdominal tumour, the central point of which corresponded, as nearly as possible, to the cicatrix of the umbilicus. It was as large as an orange; and there was an obscure pulsation, which for a moment led them to examine into the possibility of its being aneurismal. They very soon found that such was not its nature, for there was merely an upheaval of the tumour, without dilatation or lateral pulsation; there was no bruit on it, and the tumour itself was movable; and on its being displaced a little the pulsation disappeared altogether. The tumour was remarkably hard, firm, and irregular upon the surface—almost noded. It was very movable, and could be displaced considerably from side to side. On enquiring into the history of the case, the woman said she had been out of health for a considerable time. She had been long menstruating irregularly, and latterly the discharge had ceased altogether. Various dyspeptic symptoms had distressed her for months past, and she had suffered much from constipation, which required purgative medicine in large quantities to relieve it. In addition, the stomach was irritable. Usually she vomited once in the 24 hours, and then generally the

* These reports are furnished by Dr. R. W. Smith, Secretary to the Society.

vomiting came on at night. Her appearance was remarkably characteristic of malignant disease. She was wasted to the utmost degree, and was of a sallow, dingy colour. She had that peculiar expression and dried-in look which were so often found connected with cancer; and, taking her whole history and appearance into consideration, they had no difficulty in arriving at the conclusion that the tumour was malignant. The question was not so easily resolved as to whereabouts it was situated. The vomiting at first pointed to the stomach as its seat; but as far as he had seen of cases of this description, the tumour seemed to be lower down than usual. It was more movable, also, than malignant tumours of the stomach generally were; it was more superficial upon the abdomen than usual, particularly when the tumour was connected with the pylorus; and they, therefore, concluded that it was not in the stomach itself, but in the omentum. In the last conclusion we were wrong. On the 8th of the month, a week after her admission into the hospital, when going the rounds in the morning, he was told that she had begun to wander the evening before, and that during the night she had become delirious; and at the actual time of his visit, she was absolutely maniacal. Her skin and scalp were perfectly cool; the conjunctiva was bloodless; and the circulation, though quick, had nothing of an inflammatory character about it, and there was nothing indicative of any local deposit in the brain. They tried to allay the nervous excitement as best they could; but, on coming to the hospital the next day, he found that she had been so furiously delirious during the night that she disturbed the entire ward. For five days this state of delirium continued; on the 6th day she became more composed, but it was evidently the composure of exhaustion. She gradually sunk, and died on the 14th of the present month—seven days from the commencement of the delirium, and on the fourteenth day after her admission into the hospital.

The first point of importance in connexion with the case was the site of the tumour; and they found, on a *post mortem* examination, that the pyloric half of the stomach was converted into a cancerous growth. It was chiefly the hard variety of cancer—what Dr. Carswell has called scirrhus. The parietes of the stomach were thickened to nearly three inches, and cut exactly like a piece of cartilage—gritty, under the knife. The pylorus itself was free; it was not contracted, as was usual in such cases. A very remarkable feature of the case was the adhesion between the transverse portion of the colon and the tumour. That portion of the colon which was in close contact with, or passed near the convex margin of the stomach was closely drawn to it and identified with it. The cecum was the largest he had ever seen, and reminded him of that of a horse. It was filled with feces. There was no trace of disease of the brain, or its membranes. All they could say about the brain was, that it seemed to be rather bloodless; its section was found to be paler than

natural, and the white substance contained fewer of the red dots produced by the cutting of blood-vessels than was usual. The result of their examination led them to think that the delirium, during the last days of life, probably arose from irritation, reflected to the brain from local disease; or, still more probably, from a defective supply of blood to the brain. The woman was emaciated to an extreme degree; the interruption of the digestive functions had impoverished the blood; and thus he accounted for the high excitement of the cerebral system previous to death. It was certainly a symptom which he had sometimes seen before, not exactly in cancerous disease, but more than once in phthisis. Patients who were greatly emaciated had become maniacal a few days before death; and in many of these cases he had failed to detect anything wrong with the nervous system; and in these he attributed the mania to the deficient supply of blood to the brain, in consequence of the long-continued interruption of the nutritive functions.—*January 17, 1863.*

Aneurism of one of the Sinuses of Valsalva.—Dr. GORDON exhibited the lungs and heart of a man who had been under observation in the Whitworth Hospital for one month. He was admitted on the 31st December, 1862; by occupation a porter; he was a tall well-made man, said his age was 34, but looked to be many years older. He was evidently suffering from a complication of cardiac and pulmonary disease; and the account he gave of his illness was, that having been for a long time accustomed to wear flannel, he, three months ago, suddenly left it off, and thus caught severe cold, and pains in his chest and arms, which he considered rheumatic. These pains have ever since continued more or less severe, but particularly acute down the left arm. Seven weeks ago he was suddenly seized with very acute pain in the left side of the chest, the seat of which he limits to a small space above the left nipple and to the left of the sternum. This pain has never since discontinued; while he is awake he is always conscious of its existence. Besides these pains in his chest and left arm, he complains now of incessant palpitation, and also of distress of breathing. This dyspnea, at all times more or less troublesome, becomes particularly so each night, when it amounts to more or less orthopnea; and of late he is obliged to pass each night sitting up in bed, as the only posture in which he can breathe with any freedom.

There was no difficulty in arriving at the conclusion that the patient laboured under permanent patency of the aortic valves. He had well-marked visible pulsation and tortuosity of all the more superficial arteries, with the "pulse of unfilled arteries" of Hope, and over the base of the heart was audible a particularly loud double *bruit de scie*. It was, moreover, evident that this affection was not of very recent date, for an increased area of precordial dulness, and the situation of the apex of the heart being much lower down than natural, proved that this organ, its

left ventricle in particular, was undergoing the alterations which take place when this abnormal condition of the aortic valves has existed for any considerable length of time, but there was also a very loud endocardial murmur taking the place of the first sound of the heart at its apex, indicating regurgitation of blood through a permanently open mitral orifice; and, if Dr. Gairdner's assertion be correct, the exact coincidence of the mitral murmur with the systole of the ventricle, showed that the incompetency of the auriculo-ventricular valves was due to the dilatation of the ventricle, and not to an originally diseased condition of the valvular apparatus. There were also evidences of engorgement of the lungs, in the blue lip and congested face, and the distended veins of the neck, and constant troublesome cough, with sanguineous but difficult expectoration, while the physical signs proved that there was not merely a turgid bronchial mucous membrane, but by the peculiar sharp crepitation which was audible, that there was, in different parts, more or less extravasation of sero-sanguineous fluid into the air vesicles of the lungs. The diagnosis then was clearly established, that there was regurgitation of blood through a permanently open aortic orifice into the left ventricle, which had consequently become hypertrophied and dilated, and that as a further consequence of this diseased condition of the ventricle, the auriculo-ventricular valve connected therewith had become inadequate, and allowed regurgitation into the left auricle, so retarding the circulation of blood through the lungs, and producing more or less permanent congestion of the pulmonic vessels. Still, notwithstanding the evidences of this great amount of organic mischief in the heart, and diseased state of the lungs, there were symptoms present which I did not consider were accounted for even by this great amount of disease. I allude principally—1st, to the localized pain towards the base of the heart; 2ndly, to the form of dyspnea under which the patient laboured—its paroxysmal character—its being accompanied with more or less of that distressing sensation which we term *angina*; and 3rdly, to that indescribable, but still well-recognized clinical observation, that he was evidently suffering more from cardiac dyspnea than from pulmonary dyspnea. We were constrained, therefore, to add to the diagnosis, that he also laboured under a more or less acute attack of endocarditis or aortitis.

This man had been walking about up to the time of his admission, I therefore hoped that the recumbent posture alone would have some good effect on the disease. I also applied a few leeches to the seat of pain, and covered the whole precordial region with a very light hot poultice, at the same time ordering calomel and opium, in moderate doses, every four hours. The effect of this treatment was, that he obtained very sensible relief from the dyspnea and from the pain. He slept tranquilly, and the pulse from 120 fell to 92 in the minute.

On the following day the precordial region was blistered, with still

further benefit, and the mercury was continued until his gums were made sore. There was not, however, any permanent improvement in the heart symptoms, and the congested state of the lungs did not sensibly diminish. On the 21st of January his strength began to give way; and for a few days he seemed to derive benefit from the free use of diffusible stimuli; but on the night of the 23rd he was sleepless all night; could not rest on the left side; on the following morning his pulse were 124; his respiration 44; his appetite gone, and he was perspiring copiously. There was no change in the physical cardiac phenomena; the lungs were more engorged. He again rallied considerably under the very free use of wine, camphor, and blisters; but on the 27th he was again seized with orthopnea, excessive cough, and bloody expectoration, profuse perspiration, faintness, and collapsing pulse. He was evidently labouring under an attack of pulmonary apoplexy, to which he slowly succumbed. He died on the morning of the 30th of January, 1863.

Dr. Gordon exhibited the lungs, which presented a well-marked example of the ordinary so-called pulmonary apoplexy. Several firm hard nodules were found in both lungs, particularly in the lower part of the left lung. Some were on the surface, and of a blue colour; others deep in the substance of the lung; and a section of these nodules showed them to be of excessively black colour, and accurately circumscribed. The heart was also exhibited; it was very much enlarged, and weighed 14 ounces. Both ventricles were much dilated, and the walls of the left much hypertrophied. The ascending and transverse portions of the aorta were extensively studded with small atheromatous spots.

An aneurismal tumour sprung from the aorta, at the upper boundary of the sinus corresponding to the anterior valve, and passed downwards and inwards; it was the size and shape of half a large hen-egg, and projected slightly into the right ventricle, an inch below the pulmonic valves. The anterior aortic valve had given way about its centre, and the aneurismal tumour had in this way burst into the mouth of the left ventricle; the other two valves were perfectly sound; the tumour was completely devoid of coagula, but a small amount of fibrin was still visible around the ragged edge of the torn valve, and within the tumour in its vicinity. The left auriculo-ventricular opening was wider than natural, had evidently allowed free regurgitation, but there was no disease of its constituent parts.

What physical signs this aneurism caused before it gave way we cannot pronounce; there most probably existed a bruit synchronous with the second sound of the heart, and caused by a disintegration of the relapsing column of blood, part of it being diverted into the aneurismal sac. I do not see what room there was for further signs. There was no interruption to the column of blood leaving the left ventricle, and therefore no systolic murmur; and there were not any signs of unfilled arteries,

because, although an ounce, by measurement, left each column of blood in the aorta to fill the aneurismal sac, it was replaced by the same amount which had remained from the previous systole.

There can be no doubt but that the occurrence which caused the accession of such severe symptoms, seven weeks before his admission into hospital, was the rupture of the aortic valve, and accordingly, from the time of his admission, a systolic bruit marked the disintegration of the column passing into the aorta, and the more than usually characteristic signs of unfilled arteries proved that a singularly large quantity of blood relapsed into the left ventricle.

The "Transactions of the Pathological Society" record several cases of aneurism affecting the aorta in this situation. Where their history is recorded it appears to have been similar to the case of O'Keeffe, very obscure until the rupture of a valve or other consequences gave rise to angina, orthopnea, pain in the cardiac region, with the physical signs of inefficient aortic valves. In a case exhibited by the late Professor Harrison the tumour, as in the present instance, projected into the pulmonary artery, and nature had taught the patient to relieve the consequent dyspnea by lying upon his face, and so placing the sac in a less favourable position for receiving, or, at all events, for retaining the returning column of blood.

The aneurism in this case was evidently of very long duration; its edges were smooth and rounded; the communication with the aorta large, and the lining membrane of the aorta could be distinctly traced throughout, giving to it the title of "true aneurism."

It is very remarkable in how many cases of aneurism in this situation the tumour enlarges *downwards*, its tendency being usually to open into the pericardium, or into some one of the cavities of the heart, according to the particular aspect of the aorta, from which it springs. In the present instance, the *post mortem* examination does not show the capacity of the right ventricle, towards which the aneurism was tending, to have been in the least diminished by the projection of the tumour; but this is simply owing to the absence of deposit of fibrin, the sac having been emptied at each systole of the heart; but there can be little doubt but that during life it formed an obstacle to the rush of blood from the right ventricle, and that it was by this ventricle principally that it was emptied—the aorta having evidently lost much of its contractile power, and the contraction of the walls of the left ventricle, or the blood escaping from it, being unable to exercise much power over it. It was obviously the retrograding current which was producing the enlargement and distension of the sac, and causing its growth in a direction exactly opposite to that in which an aneurismal tumour usually increases.—*January, 31, 1863.*

Acute Suppurative Meningeal Inflammation.—Dr. GORDON laid before the Society a well-marked example of very extensive suppurative

inflammation of the arachnoid membrane. The purulent matter was found in very large quantity over the entire convex surface of the brain, but chiefly over the right hemisphere, where it lay in such amount as to cause considerable depression of this portion, and at first gave to the hemisphere the appearance of having collapsed, from a collection of matter having escaped from its interior; but a section of the brain showed its substance to be rather paler and firmer than natural. Pus was also diffused in considerable quantity over the internal aspect of the cerebral hemispheres and on the tentorium, but the inferior surface of the brain was comparatively free. The roots of the nerves were not implicated: there was in this situation merely some slight opacity of the arachnoid membrane. There was no purulent effusion into, or other disease of the lateral or other ventricles. The pia mater in general was scarcely vascular. The purulent collection was found to be altogether external to the brain, but retained *in situ* by the delicate although firmly organized bands of lymph. The cranial skeleton seemed to be perfectly healthy. There was no sign of wound or fracture, nor was there any evidence of disease in the temporal bones or the auditory apparatus. The subject of these diseased appearances was a young woman, 29 years of age, who had led a very dissolute life. She was admitted into hospital on the 12th of January, complaining of general languor, debility, and great headache. These symptoms were preceded by a severe rigor five days previously, and she had since had repeated shiverings. She was exceedingly pale and anemic, had a heavy stupid look, and seemed unwilling to answer any questions, and was apparently quite reckless of her state. Her pulse was quick; her tongue white, covered with a creamy fur; her skin hot and dry. She had occasional attacks of vomiting. Slight pressure seemed to increase the pain in the head much. Her friends state that three days after she took ill she had a convulsive fit, which continued, with intermissions, for half an hour; after this she lost completely the power over the lower extremities. There were no physical signs of disease in heart or lungs. 15th. The lower extremities continue quite powerless. She passes urine freely, and the bowels act regularly. The pain in the head is still very severe and is referred chiefly to the left side. Pressure on any part of the head seems to hurt her; but there is no puffiness or swelling of any part of the scalp; the stomach is still irritable; she is becoming drowsy; her intelligence is perfect but slow; pulse 100.

The case was considered to be one of abscess in the brain, and the usual means were adopted to bring the system under the influence of mercury, while her strength was very fully supported. 17th. Pain in head increased, and also the irritability of the stomach. 20th. She woke from sleep this morning screaming, and I found her with her hands clasped tightly across her head, still crying loudly with pain. The

paralytic condition of the lower extremities is most profound, but there seems to be no nervous lesion elsewhere; more energetic means were used to mercurialize the system, and counter-irritation was freely adopted. 21st. Pain somewhat abated; she appears to be in a drowsy state; if spoken to loudly she answers coherently, but does not reply until after a few seconds have elapsed; right arm apparently powerless. January 22nd. No difference in the symptoms; passed a very small quantity of turbid urine about 11.30 a.m., not having passed any since eight o'clock yesterday morning. She is insensible, lies on her back, does not answer when spoken to; pulse becoming slow, 76; pupils sluggish. 24th. Still comatose, cannot be roused; left arm and leg completely paralysed; draws up both extremities of right side when irritated; feces and urine come away involuntarily; the feces are very fetid; pulse small and weak. 26th. Seems to be sinking rapidly; lower half of the right foot has rapidly become gangrenous; she lies quite powerless in bed; sphincters relaxed; mucous rattle over chest and in larger bronchi; about midnight had convulsive twitchings of the flexors of the forearm and hand of left side; the other limbs not similarly affected; all the limbs are cold. She died, comatose, on the 27th.

Cases of true traumatic suppurative meningitis are not of common occurrence. They are usually in some measure connected with venous inflammation. We therefore examined the longitudinal and other sinuses, but they did not contain any abnormal appearances; neither was there any pulmonary disease. The heart had undergone some fatty degeneration, and the kidneys were becoming granular, although there was not any albumen detected in the urine.

On reviewing the history of this case, and the *post mortem* appearances, I am of opinion that the nature of the disease was, that the patient had on more than one occasion suffered from meningeal inflammation or irritation, which caused the development of the organized bands which were found so extensively diffused; that at last an acute attack supervening, influenced partly by the renal disease and partly by the altered condition of the serous membrane, the product, as in cases of secondary pleuritis or pericarditis, was purulent effusion, which is inevitably fatal, at least whenever it is poured out on the brain in quantity anything like to that in the present instance.

The mortification of the foot, which took place in this patient, was of that form described by Copland, as arising from exhaustion of organic nervous power. Its appearance was not preceded by any symptom of inflammatory action—certainly not by any increased heat or sensibility of the part—and was directly owing to the loss or diminution of supply of the organic or ganglionic nerves to the limb; the opposite extremity was rapidly becoming cold, and would soon have been involved in the same destructive process if the patient had longer survived. The arteries of

the right lower extremity were very carefully examined, but there was no clot or diseased appearance within them, except at the very terminal extremities, where they had a reddish appearance apparently from imbibition, being surrounded with a copious reddish serous effusion. There was a great deal of fat deposited on the surface of the heart, which encroached on the muscular structure, but this latter did not appear to have undergone any fatty degeneration; all its chambers were filled with soft black coagula; both kidneys were small and contracted.—*January 31, 1863.*

Scrofulous Tubercle in the Cerebellum and Lungs; Cancerous Degeneration of the Pleura.—Dr. GORDON detailed the following case, and exhibited the recent specimens. John Byrne, aged 30, a wine porter, had, for a long time, had cough, constant dragging pain in his left side, difficulty of breathing, occasional hemoptysis, and recounted also the usual array of symptoms which indicate fully developed hectic fever.

The slowness with which these symptoms supervened allowed him to continue at his employment until about two months ago, when emaciation began to progress very quickly, and he became unable to walk, even short distances, from a tottering in his gait and from rapidly increasing debility. Shortly after this he began to suffer from great pain in his head, which he could not refer to any particular spot, and which was always most severe at night. About this time also he observed that his memory was rapidly failing. He was admitted into the Whitworth Hospital, December 16, 1862. He had a very peculiar, anxious expression of countenance, which again was of a waxy anemic hue, and this extended over all the surface of the body; he had latterly been living in bad air, and was badly nourished; he never had constitutional syphilis; he complained most of cough and the pain of his left side, and, being greatly emaciated, the contraction at the lower part of the left side of his chest was easily observable; the crepitation audible in the upper part of the left lung, and the interrupted respiratory murmur in the right elicited the diagnosis that the general symptoms were due to pulmonary phthisis, and the contraction of the side was supposed to be owing to an old attack of pleurisy. He was ordered generous diet and some tonic medicine; but before he was many days in hospital the chest symptoms were totally forgotten in the severity of the deep-seated headache which again came on. There was no direct paralysis, but his gait was tottering, and, as he said himself, "he could not direct his limbs." He was mercurialized, and, for a short time, experienced very decided relief; but the headache again recurred, and was now accompanied by great irritability of the stomach; this continued for about four days, when he again got better, and was up going about the ward, the pain in the head now and then returning. On the 17th of January, while eating his dinner, he was

seized with an epileptic attack; his face was deeply flushed; he frothed from the mouth, and during the early part of the attack was perfectly unconscious; but before it had ceased he was able to articulate a few broken sentences; he said afterwards that a morsel had gone into his windpipe. About a week afterwards he was seized with a similar attack more severe and of longer duration than the former, and which left him weaker; still he was up, and ate and drank with appetite. On the 26th he had another attack of vomiting—passing a sleepless night; and again after exactly another week's interval, he was seized with another epileptic fit, which was of very short duration, but in which he died.

The diseased appearances in the brain were confined to a single scrofulous tubercle, but of large size, oblong—an inch long, by half-inch broad—which occupied the right lobe of the cerebellum; the brain substance around it was much softened, the pia mater very vascular, and the arachnoid opaque in its vicinity.

In the upper portion of the right lung were a few solitary tubercles of the same nature. The upper lobe of the left lung contained several small grey indurated tubercles, and the lung substance around them was rapidly breaking down, while the lower lobe of the lung was almost entirely effaced by a hard scirrhus mass, which apparently had had its origin in the pleura, but was now pressing on the lung, obliterating the air vesicles, and also by various bands spreading into its substance. A section of it showed a very hard, striated cancerous growth, and it was of very considerable size, having rendered useless nearly the entire lower lobe of the left lung.

Dr. Gordon observed that tubercles in the brain or cerebellum are not very common in the phthisis of adult life; but that we have no reason to suppose that, in the present instance, the general law was departed from; that these growths seldom give rise to any prominent symptoms, unless or until more or less, extensive softening of the surrounding structure supervenes. The ramollissement which existed in this case was very extensive; and from its reddish colour was, we may presume, more or less of an active nature—hyperemic rather than anemic softening.

The case was also an example of the symptoms of phthisis, being, in some degree, masked, as is often the case when the thoracic affection is complicated with cerebral disease.

It will be observed that the loss of the coördinating power was the peculiarly prominent symptom, pointing out beforehand that the seat of disease would be found situate in the cerebellum.

Not the least important feature in this case was the combination, in the same individual, of cancerous and scrofulous disease. The scrofulous disease was general and well-marked; the cancerous disease was apparently local, and was of that form which is followed by contraction of the

side, of which I have already published* a well-marked instance, occurring at the upper part of the left lung, and, as is usually the case, in a person of about the same age as was the patient Byrne.

To those who deny the possibility of the two diseases coëxisting, I can only grant the conclusion with which Prof. Haldane closes his last paper on the subject, that the two diseases never actively progress together. In the slowness or nonactivity of its progress this scirrhus forms a remarkable contrast to the more active and rapidly-spreading cerebriform cancer of the lung.—*February 7, 1863.*

Pyæmia.—DR. FLEMING said that the case connected with the morbid specimena, which he wished to lay before the society, was that of a man aged 38 years, of intemperate habits. About a fortnight before his admission into the Richmond Hospital he received a wound of the scalp, inflicted by a policeman's baton; and a day or so before he came to the hospital, he was attacked with a rigor, followed by fever, when erysipelas of the face showed itself. The condition of his pulse early attracted notice. Three beats or so would strike in tolerably steady succession, then an intermission would occur, followed by a sort of weak flutter, when again the same triple beat would occur, followed by the same indistinct action. On examining the heart, all the ordinary physical signs of mitral valve disease were discovered, with the exception of "bruit." The impulse was violent and widely extended. As regarded the progress of the erysipelas, it presented no peculiarity; but, when it passed off, it was observed that there was not a proportional subsidence of the constitutional symptoms. On the eighth day from the first appearance of the local eruption, violent pain seized the left knee, followed by acute synovitis, with considerable effusion into the joint. Treatment relieved him suffering; but after a few days a fresh train of symptoms showed themselves. Preceded by the local signs of capillary phlebitis, a large collection of purulent matter formed in the calf of the corresponding leg. This was followed by another in the front of the thigh, behind the extensor muscles, and another in the upper and inner part of the thigh in the opposite leg. A similar collection formed in its anterior part. It was remarkable that neither rigors nor perspirations were present throughout the formation or progress of these purulent deposits. The constitutional symptoms were of a low typhoid character. There was occasionally cerebral disturbance, but not to a great extent. The patient died six weeks after the supervention of the symptoms of pyæmia. The interior of the knee joint showed complete destruction of the cartilages of incrustation, and the ends of the bones smeared with purulent matter. In the heart was found contraction of the left auriculo-ventricular opening, with a rough and thickened state of the valves.—*February 7, 1863.*

*See *Dublin Hospital Gazette*, N. S., Vol. iii., p. 225.

Cancer of the Rectum and Liver.—DR. EDWARD HAMILTON said the preparations he exhibited were illustrative of some of the effects of malignant disease of the lower end of the rectum.

A horse policeman, aged 37 years, was admitted into the constabulary ward of Steevens' Hospital, and his general appearance partook strongly of all the indications of chronic disease, and that, too, of a malignant nature. His face presented the peculiar characteristic hue usual in such cases, and indicated a considerable degree of suffering and pain; he was emaciated, and presented the evidences of prostration of strength generally. He stated that until three months before his admission into the hospital he enjoyed tolerable health, and discharged the ordinary duties of a mounted policeman without any inconvenience; and this fact had been verified by a very intelligent pupil, Mr. Swan, who saw him in the country discharging those duties. He stated, however, that he suffered from one or two attacks of constipation, and those attacks frequently lasted two or three days. He also stated that towards the close of the autumn he suffered from slight shivering, followed by sweating, for which he was unable himself to account. That three months before his admission he began to experience a sensation of burning pain and soreness in the anus, and that this continued for some time, not very much attracting his attention, but was followed by very severe pain during defecation. He subsequently found these symptoms becoming very much increased and exaggerated, and a bloody discharge occurring from the anus. He was placed under medical treatment, and continued so for three months, until subsequently he was sent to the constabulary ward of Steevens' Hospital. His appearance, as already stated, at once indicated the existence of some organic, and, more than probably, malignant disease. On examining the anus, its margin was found red, excoriated, fissured, and discharging an exceedingly offensive matter. On passing the finger into the rectum, there was found almost immediately above the orifice, a distinct, hard, contracted ring. The introduction of the finger necessarily caused the patient much suffering, but still the finger could be introduced freely into the bowel; and on passing it up above the contraction, the peculiar velvety, rugose feel, natural to the rectum, could be felt very distinctly, but there appeared to be considerable dilatation above it. Further examination showed that the glands in the groin were enlarged, hard, and felt almost like marbles under the skin. He also stated that he suffered at times from lancinating pain in those glands. He also complained of some pain on pressure in the left iliac region; indeed generally he experienced pain in the abdomen if the bowels did not act. As long as his evacuations were liquid he passed them freely enough; but if any small, hard mass of matter came it was generally difficult to pass, and gave him pain in the abdomen. There was no doubt as to the exact nature of the case. He suffered clearly from malignant ulceration of the lower

extremity of the rectum, involving the verge of the anus. The treatment of the case was, of course, merely palliative. He had nutritious food and wine, and opium almost *ad libitum*. The opium pills were placed by his bedside, and he would take three or four of a night before he could procure sleep. At the suggestion of his colleague, Dr. Wilmot, they gave him fluid extract of taraxacum, for the purpose of keeping his evacuations as moist as possible. Things continued in this state without very much alteration; he would somewhat improve occasionally, and would be able to sleep at nights, but still suffered very much. After some days his stomach became irritable, and he neglected his food, and there was great difficulty in procuring a sustenance which would rest upon his stomach. Things went on in this way, with a sort of changeful relief, until the 16th of January, about a fortnight after his admission into the hospital, which was on the 31st of the preceding December. About the 16th of January he was informed by his dresser, Mr. Mussen, that on the previous night the man had a smart attack of hemorrhage, and that large clots of blood were discharged from the bowel; and evidences of it were found on examination. The hemorrhage, however, had ceased when he saw him, having been checked by applications of diluted sulphuric acid. In the course of a day or two more the irritability of the stomach became very much increased, and the appearance of his skin now became decidedly marked with jaundice. An examination over the region of the liver now showed marks of disease, distinct, hard, and defined, as if evidently infiltrated with some hard, dense structure. The jaundice continued increasing, and the irritability of the stomach was such as to cause him to neglect almost every kind of food, until at last he sank and died on the 11th of February, about six weeks after his admission. The *post mortem* appearances explained very satisfactorily the course and progress of the symptoms. On opening the abdomen, the first thing that struck them was the existence in the pre-peritoneal areolar tissue of an extensive layer of purulent matter. From the abdomen a considerable quantity of fluid, of an orange colour, escaped. Then there appeared the great enlargement of the liver, visible in the preparation. The organ was adherent to the under surface of the diaphragm, and it was completely infiltrated with the structure which they saw, and which, he had little doubt, was a cancerous deposit. It did not exactly present the indented appearance which they saw in Farre's tubercle; the infiltration was very general through its tissue. The omentum and peritoneum were thickened, and the mesenteric glands seemed to participate in the same disease which penetrated the liver. Passing down to the rectum, they found appearances of a well-marked ulcer, involving the entire cylinder of the gut, and, he thought, occupying a lower position than was usually assigned to it. The ulcer was irregular on the surface, and was now, of course, a good deal discoloured by time.

The large valve of Houston and its submucous tissues were completely

infiltrated with blood. He suffered no symptom of urinary disease; the bladder did not seem to participate in the affection observed elsewhere, either by irritability or by structural change. There was immense thickening of the coats of the bowel, which was usual in such cases; but there was also a very remarkable structure occupying the submucous tissues, namely, a peculiar lardaceous deposit like that sometimes seen in cancer. When this substance was subjected to the action of acetic acid, the microscope displayed cells crowded with nuclei. The inguinal glands were very hard, and were infiltrated with cancer. Such was the history of the case. Were they to regard the disease of the liver as pre-existing and preceding the disease of the rectum, or were they to regard it as the consequence of it? If they were to take the liver as becoming impregnated by cancerous matter through the portal venous system, it would afford a very easy explanation of the mutual bearing of one disease upon the other. But he could hardly conceive that such an enormous amount of infiltration of the liver could have taken place in so short a time; and he rather inclined to the opinion that the disease of the liver pre-existed in a latent state; and it was more than probable that the disease of the rectum was a similar result produced by the same constitutional diathesis. He thought it was hardly in accordance with strict pathology to suppose that so considerable an amount of infiltration would take place in the course of a couple of months.—*February 14, 1863.*

PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.*

TWENTY-FIFTH ANNUAL SESSION, 1862-63.

DR. BEATTY, President.

DR. HALAHAN read the following paper on *Puerperal Scarlatina* :—

Much as has been already said and written upon the all-important subject of puerperal fever, and deeply as Dr. Denham has entered into it in his valuable essay, I am far from regarding the subject as exhausted; an opinion which, I am sure, is, to some extent, at all events, shared by all in this room, and forming, I trust, an excuse for again bringing the matter under your consideration. I enter upon the enquiry with the hope that important light may be thrown, not upon the diagnosis, or upon the question of contagion or non-contagion, but upon the more important question as to the *mode of treatment* which, judging from its results, is the best to be pursued. I wish, also, to confine myself, at present, to a particular form of the disease (the worst, as being confessedly the most

* These reports are supplied by Dr. Geo. H. Kidd, Secretary to the Society.

fatal)—namely, the appearance of the scarlatina eruption, accompanied with fever and sore throat, and not uncommonly associated with peritonitis.

I shall give you a sketch of 25 cases of this form of the disease, avoiding minute particulars, which might exhaust your patience, and throw no additional light upon the subject. Of these, 19 died and six recovered. I shall first give the outlines of those cases which terminated fatally:—

The first was three hours ill—one hour and a-half being occupied by the second stage—the child, a boy, her eighth; she was greatly affected with head symptoms. On the fifth day she got three ounces of wine, and was sent to the Hardwicke Fever Hospital, where she died on the seventh day after delivery. We found out, afterwards, that her children had scarlatina, and one, at least, had died of it.

The second was 24½ hours ill—one hour and 10 minutes in the second stage—the child, a female, her first; she had a rigor on the second day. She was unmarried; got no wine; was sent to the Hardwicke Fever Hospital on the fourth day, where she died the next, it being the fifth day after parturition.

The third was 18 hours ill—one hour in the second stage—the child, a male, her first. On the morning of the third day complained much of tenderness over the uterus, for which she was leeches; she got four ounces of wine this day. On the morning of the fourth day, there still being a good deal of tenderness over the right side of the uterus, 10 more leeches were applied thereto, and, at the same time, she was ordered two ounces of wine. In the evening she was sinking, and was ordered three ounces wine. She died the next day, being the fifth after delivery.

The fourth was 26 hours ill—two hours and a quarter in the second stage—the child, a female, her first. She had bronchitis on admission; quiet pulse from time of delivery; much mental depression. On morning of second day ordered wine—four ounces; in the evening the wine was ordered to be continued. On the morning and evening of next day the same quantity of wine ordered. On the fourth day she was sent to Cork-street Fever Hospital, at the same time being given three ounces wine. She died the next day, the fifth.

The fifth was five and three-quarter hours ill—one and three-quarters in the second stage—the child, a girl, her seventh. On the evening of third day ordered wine—three ounces; on the evening of fourth day two ounces of wine; on the morning of fifth day ordered four ounces of wine, and in the evening three ounces; on the morning of sixth day six ounces of wine, and in the evening four ounces; on the morning of seventh day, sinking fast, ordered eight ounces of wine; died this day.

The sixth was 15 hours ill—two and a-half in the second stage—the child, a female, her third, presented with one foot; she was ill of the

disease on admission. Early on second day complained much of tenderness over the left side of the uterus, to which place 10 leeches were applied; the pain still continuing, in three hours afterwards 12 more were put on, she, at the same time, being ordered four ounces of wine. She sank shortly afterwards.

The seventh was 14 hours ill—one and three-quarters in the second stage—the child, a male, her first. Complained greatly of pain over the uterus on the second day, for which she was leeches. On the evening of the fourth day ordered two ounces of brandy; on the morning of the fifth day ordered six ounces of wine, and in the evening four ounces of brandy. She died shortly afterwards; she was unmarried.

The eighth was nine hours ill—seven in the second stage—the child, a female, her first; on the second day she had a rigor. On the evening of the fourth day ordered four ounces of brandy; on the morning of the fifth ordered eight ounces wine; at three o'clock in the afternoon ordered four ounces more of wine, and in the evening eight ounces; on the morning of the sixth day ordered eight ounces wine, and in the evening 12 ounces; on the seventh day the same quantity of wine was administered; on the eighth day 16 ounces were given; on the ninth day 14 ounces of wine were ordered; on the 10th day 16 ounces; on the 11th day eight ounces; on the 12th day 10 ounces; on the 13th day 12 ounces; on the 14th day 12 ounces of brandy; and on the 15th day she died.

The ninth was 26 hours ill—two in the second stage—the child, a female, her first. She was unmarried, and suffered much from head symptoms. Twenty-two hours after delivery, ordered six ounces wine, and in the evening the same quantity; on the morning of the third day ordered six ounces of wine, and in the evening four ounces of brandy; on the morning of the fourth day ordered six ounces of brandy, and in the evening the same quantity of it. She died shortly afterwards.

The 10th was $10\frac{1}{2}$ hours ill—came in in the second stage—the child, a male, her fifth; she was maniacal. On the third day ordered three ounces of wine, and in the evening nine ounces; on the morning and evening of fourth day ordered four ounces each time; on the morning of fifth day ordered four ounces of wine. She died this day.

The 11th was six and a-half hours ill—one in the second stage—the child, a boy, her third; she had bronchitis on admission; she had no sore throat. On the third day she was ordered four ounces of wine, and the same quantity on the fourth; on which day she died.

The 12th was $12\frac{1}{2}$ hours ill—one and a quarter in the second stage—the child a male, her third; she was unmarried. On the fourth day she got four ounces of wine. She died the next day.

The 13th was 18 hours ill—three in the second stage—the child, a boy, her sixth, presented with the breech; she suffered much from

her chest. On third day ordered three ounces of wine; on fourth day eight ounces of wine; on fifth day seven ounces of wine; on sixth day 12 ounces of wine; on seventh day she died.

The 14th was 27 hours ill—four and a half in the second stage—the child, a female, her first; ill of the disease on admission; she was not married. On second day ordered six ounces of wine, but sank this day.

The 15th was three hours ill—a quarter of an hour in the second stage—the child, a boy, her seventh; ill of the disease on admission. Ordered six ounces of wine on second day; sank shortly afterwards.

The 16th was 19 hours ill—had a narrowing of the pelvic brim—and, never having had a child born alive, was most anxious that this one should be saved, if it were at all possible. The membranes had ruptured some short time before admission. The os being nearly fully dilated, and it being her fifth pregnancy, she was put under the influence of chloroform immediately after her placing herself under our care; as we were aware of the deformity, and if the child were to be saved, we had no time for delay. The moment it was practicable Dr. Denham introduced his hand, and performed the operation of version with perfect and complete success, the child, a boy, being born alive. She got into a great state of excitement, and became maniacal. She complained much of tenderness over the uterus, for which she was leeches. On the second day she received 10 ounces of wine; on the third day she died.

The 17th was 23 hours ill—seven and a-half in the second stage—the child, a boy, her first; she was unmarried. On third day ordered four ounces of wine; on fourth day ordered 16 ounces of wine; on fifth day got six ounces of wine and eight ounces of brandy; died on the sixth day.

The 18th was 23 hours ill—three and a-half in the second stage—the child, a male, her first; she became maniacal, not being married. On the third day ordered four ounces of wine; on the fourth day 16 ounces of wine; on the fifth day six ounces of wine and six ounces of brandy; on the sixth day 10 ounces of brandy; on the seventh day 12 ounces of brandy; and on the eighth day she died.

The 19th was four and three-quarter hours ill—one and three quarters in the second stage—the child, a boy, her eighth. On the third day got six ounces of wine; on the fourth day 12 ounces of brandy; on the fifth day 14 ounces of wine; on the sixth day she died.

As I have, more than once, made use of the terms morning and evening, I would here explain that it was at the hours of 9½, a.m., and 7, p.m., that we visited the patients.

Nineteen Fatal Cases of Puerperal Scarlatina.

No.	Hours in Labour	Sex and Child now born		No. of Preg- nancy	Pre- sentation	Posi- tion of Head	Mode of Delivery	No. of ounces of Wine given each day after Delivery														No. of ounces of Brandy given each day after Delivery							Social State	Day of Death after Deliv- ery	First Day on which Fever appeared after Delivery	
		Length of 2nd stage hours	M.					F.	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	3rd	4th	5th	6th	7th	14th				
																																Married	Single
1	3	1 $\frac{1}{2}$	1	-	8th	Head	4x1	Natural	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	7th	3rd	
2	24 $\frac{1}{2}$	1 $\frac{1}{2}$	1	1	1st	Head	3x2	Natural	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	5th	2nd	
3	18	1	1	-	1st	Head	-	Natural	-	4	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	5th	2nd	
4	26	2 $\frac{1}{2}$	-	1	1st	Head	3x2	Natural	8	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	5th	1st	
5	5 $\frac{1}{2}$	1 $\frac{1}{2}$	-	1	7th	Head	3x2	Natural	-	3	2	7	10	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	7th	3rd	
6	15	2 $\frac{1}{2}$	-	1	3rd	One foot	-	Natural	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2nd	From time of delivery		
7	14	1 $\frac{1}{2}$	1	-	1st	Head	4x1	Natural	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	2	4	-	-	-	1	5th	2nd	
8	9	7	-	1	1st	Head	3x2	Natural	-	-	-	-	20	20	16	14	16	8	10	12	-	-	-	4	-	-	12	1	15th	2nd		
9	26	2	-	1	1st	Head	-	Natural	6	12	-	-	-	-	-	-	-	-	-	-	-	-	10	6	-	-	-	-	1	4th	1st	
10	10 $\frac{1}{2}$	-	1	-	5th	Head	-	Natural	-	12	8	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	5th	2nd	
11	6 $\frac{1}{2}$	1	1	-	3rd	Head	-	Natural	-	-	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	4th	1st	
12	12 $\frac{1}{2}$	1 $\frac{1}{2}$	1	-	3rd	Head	-	Natural	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	5th	2nd	
13	18	3	1	-	6th	Breech	-	Natural	-	3	8	7	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	7th	3rd	
14	27	4 $\frac{1}{2}$	-	1	1st	Head	4x1	Natural	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2nd	From time of delivery
15	3	$\frac{1}{2}$	1	-	7th	Head	-	Natural	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2nd	From time of delivery	
16	19	-	1	-	5th	Head	4x1	Version	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3rd	1st	
17	23	7 $\frac{1}{2}$	1	-	1st	Head	-	Natural	-	-	4	16	6	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	1	6th	2nd	
18	23	3 $\frac{1}{2}$	1	-	1st	Head	-	Natural	-	-	4	16	6	-	-	-	-	-	-	-	-	-	-	-	-	6	10	12	-	1	8th	2nd
19	4 $\frac{1}{2}$	1 $\frac{1}{2}$	1	-	8th	Head	3	Natural	-	-	6	-	14	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	1	6th	2nd	

I shall now briefly recapitulate:—Nine were in their first pregnancy; three in their third; two in their fifth; one in her sixth; two in their seventh; and two in their eighth. There were 12 boys and seven girls born. The presentations were—a half breech, a breech, and heads. One was delivered by version; one, at least, had, beyond a doubt, scarlatina in her house, as one of her children died of it; three, at all events, were ill of the disease on admission; one had no sore throat; seven were unmarried. Three died on the second day; one on the third; two on the fourth; six on the fifth; two on the sixth; three on the seventh; one on the eighth; and one on the 15th. Two only had rigors, which occurred, in both cases, on the second day. The treatment included anodynes, alteratives, diaphoretics, astringents, tonics, stimulants, applying cold lotions and blisters to the shaved head or back of the neck—in fact, all remedies were tried without avail.

Having said so much about those who, unfortunately, died of this fearful malady, I shall, with pleasure, change the scene, and detail some of the particulars of the cases which recovered. The first that I shall mention occurred in the Mountjoy Female Prison, where I was called in to attend it, through the kindness of my friend, Dr. Banon. She was 72 hours ill—six in the second stage—the child, a boy, her first; was delivered by the forceps; was unmarried. She was given 12 ounces of wine the day of her delivery; on the second day 16 ounces; on the third and fourth days 18 ounces; on the fifth day 16 ounces of wine, together with eight ounces of brandy; on the sixth, seventh, eighth, ninth, and 10th days, 18 ounces of wine and 8 ounces of brandy; on the 11th and 12th days 18 ounces of wine and four ounces of brandy; on the 13th, 14th, 15th, and 16th days, 14 ounces of wine and four ounces of brandy; on the 17th, 18th, 19th, and 20th days, 14 ounces of wine and two ounces of brandy; from this day till the 27th day 14 ounces of wine; and from that day six ounces; she, at the same time, received large quantities of strong beef tea and chicken broth. The medical treatment was very little, indeed—nothing to boast of.

The second was $14\frac{3}{4}$ hours ill— $4\frac{1}{2}$ in the second stage—the child, a male, her first; she had bronchitis and metritis, for which she was leeches. On the third day she got four ounces of wine; on the fourth and fifth days eight ounces each day; on the sixth day six ounces; on the seventh, eighth, and ninth days, eight ounces; on the 10th day six ounces; on the 11th day seven ounces; and on the 12th day six ounces of wine.

The third was 21 hours ill—one hour in the second stage—the child, a boy, her first. On the eighth day she got four ounces of wine; on the ninth, 10th, and 11th days, she got five ounces; on the 12th she got six ounces; and from the 13th day to the 27th five ounces of wine.

To recapitulate:—Three were delivered with the aid of the forceps; four boys and two girls were born; five were in their first and one in her fifth pregnancy; one was leeches; one was unmarried; the skin desquamated in all.

The medical attendant, in his anxious observance of the symptoms of disease, pays, of course, special attention to the state of the pulse, regarding it as one of the most important sources of information as to the progress or decline of the malady; and many strive to abate the alarming symptoms presented by it, and to lessen its frequency, by the exhibition of various remedies, and not without satisfactory results. Now, without questioning the utility of these medicines in effecting, frequently, the object in view, I believe it may be more simply and, at least, as effectually obtained by the employment of stimulants. I am enabled to demonstrate this conclusion, to a certain extent, at least, in the eighth recorded fatal case. On the fifth day the pulse was 130; she got 20 ounces of wine on this and the following day, and the pulse fell to 120. The wine was continued, with very slight diminution, till the 11th day, when the pulse had fallen to 100. Unfortunately, on this day, we gave her but eight ounces of wine, and *the effect was immediate and striking*—the pulse again rose in frequency, and she died on the 15th day. I have now very little doubt that the result might have been satisfactory had we continued the stimulant treatment for a longer time. As in the other cases, besides the use of stimulants, other agents were employed, which exerted a depressing influence upon the pulse, I cannot fairly adduce them as instances of the utility of the practice I propose.

The period at which the disease shows itself after parturition is of immense importance in this, as well as in all other forms of puerperal fever, which may, of course, be easily accounted for by the low and prostrate condition of the patient immediately following delivery. Amongst the 25 cases referred to, which I have placed in tabular forms, three, who were ill from the moment of delivery, died. Of five who were attacked during the first 24 hours after delivery, but one recovered, and she, I am satisfied, was saved by the large and continued employment of stimulants, and the quantity of nourishment afforded. Her case was peculiarly difficult, presenting not only the worst symptoms of the disease, but aggravated by the wretchedness of her social position. A prisoner, and unmarried, her mental anxiety complicated the sufficiently alarming virulence of the complaint. Of 10 who were attacked on the second day, but one recovered. The attack in this case was confessedly slight; her pulse, after the first accession of fever, was 108, and quickly fell to 92. On the third day, as before mentioned, she got wine, which was continued in increased quantities. In two other cases, who were attacked on this, the second day, considerable quantities of wine and brandy were administered. The eighth, already alluded to, who

received stimulants freely until the 11th day, when the supply was diminished, survived to the 15th day. The 18th case, in which a smaller amount of stimulant was administered, died on the 8th day. Of four seized with the disease on the third day, but one recovered, and in her case the attack was not severe, as, on the fifth day after delivery, the pulse was down to 98; the remaining three were attacked on or after the fifth day, and in each instance recovered.

The sad details of mortality brought before you make it too painfully apparent that we are far from having arrived at the treatment best calculated to deal with this fearful malady. There are few medicines which have not from time to time been tried, to stay its deadly ravages, but manifestly without success. Why, may I ask, should we persist in treading the beaten track of our predecessors, when it so plainly leads to death? It seems clear that the disease cannot be grappled with by the use of *drugs*. Why not manfully get rid of our prejudices, and the weight of authorities which have evidently no virtue but antiquity, and try some other treatment, in the hope of lessening the dreadful mortality of 75 per cent? I would, in the hope of contributing to this great result, declare the opinions I have formed on this and other forms of puerperal diseases, from a not unextensive experience. I feel confident we too often neglect the manifest teaching of nature as to the treatment of disease. If she demands anything from us, it is to assist her failing powers; to sustain her sinking life. She seems to pray us to support her in her sore battle with the foe she is striving to expel. We too often blindly resist her appeal; or, in our mistaken efforts to assist her, frustrate too frequently the very exertions she has herself been making. Of what use are all the drugs in the Pharmacopeia, if, while we are administering them, the powers of life are waning, and the patient is fast sinking into death? What use in straining our energies, and taxing our ingenuity in cutting short the disease, when the very *weakness*, or impending weakness, of the sufferer is enough to slay her? Out of our own mouths are we condemned; for, when our drugs fail us, and life is ebbing fast, we fly to every stimulant within our reach; too late, alas! in a majority of instances. The time when stimulants would have been *everything* has passed, and the administration of them at the last is but an acknowledgment and an admission of a destructive error; an error, too, which nature, did we but listen to her, loudly condemns. If nature cries for stimulants, be sure she needs them. If the common cry of a sinking woman be, "I am going down through the bed," pause before you close your ears to the message which that cry delivers; 'tis the utterance of a craving which no drug can satisfy, and this our death list testifies.

Another fact in connexion with this subject which cannot, with impunity, be overlooked; and one which is not, I fear, brought, with that importance which it possesses, under the notice of the student of medicine,

nor thought of as it deserves by every medical practitioner, is the intimate connexion existing between the mind and the body; a union the most perfect in creation; perfect, not only as being the work of that Great Power who knit the links of being close together, but in the eternal marriage which the word of "Revelation" declares to exist between them. This union, so complex and complete, suffers one transient severance. Death for a time cuts the bond asunder, asserting thereby his cruel supremacy, and universal rule. But the Christian looks for a coming reunion in the dispensation of the future, perfect and eternal. As to their mutual action in life, it is impossible to overrate its importance, or the necessity incumbent upon the medical practitioner of bearing it ever in mind. When disease racks and wastes the frail receptacle of life, the mind, by a subtle sympathy, desponds and pines, reacting again upon the very body which depresses it. When, again, the mind is affected by some persistent grief, or latent apprehension, or concealed remorse, or sudden intimation, whether of joy or sorrow, the bent and wasted person, the restless movements, the sleepless nights, the fickle appetite, the timorous, palpitating heart, measure the extent of the all-potent influence of mind on body. We would expect to find this sympathy morbidly manifest in disease; and so, in truth, we do, in some instances, in itself endangering life. We have to combat with this sympathy in every serious disorder; in instances, too, where both body and mind are engaged, and in cases where the natural anxiety of the mind is heightened and intensified by the pressure of unfortunate circumstances, sad recollections, or apprehensions, or the consciousness of guilt, or dread of shame. The physician can have no harder case to deal with than one which involves such a complication as this; and how, we may ask, can he reasonably expect to cure the distemper of the body, unless he try, in some measure, at least, to soothe and allay the disquietude and irritation of the mind? This state of mind, and its influence on the body, is ably noticed by Shakspere, when Macbeth inquires of the doctor:—

"How does your patient, doctor?"

"Not so sick, my lord,

As she is troubled with thick coming fancies

That keep her from her rest."

Nor is Macbeth's reply wholly inapplicable to the case at issue:—

"Throw physic to the dogs—I'll none of it."

We must, to follow his advice,

"With some sweet, oblivious antidote,

Cleanse the stuffed bosom of that perilous stuff

That weighs upon the heart."

A woman errs from the path of virtue, and becomes pregnant; the mind seems, for a time, during the period of gestation, to take little or no cognizance of the sin; but, when the hour of her trial draws near, and the possibility of death in or after parturition stares her in the face, in her low, weak, excitable, and nervous condition, the apprehensions of the mind heighten the dangers of the body. A wretched conviction of impending death, and, it may be, of impending judgment, increase the difficulties of the physician, and blunt his ablest instruments. In cases of this sort the mind is often the seat of real disorder, at all events of danger, and the physician's attention should be directed specially to it. Of the effect of the mind on the body no stronger proof can be afforded than one that is manifestly too common. The case of a patient, whose mind has been filled to distraction with the idle gossip of tattling, ignorant women, by whom every death is duly chronicled, every complication and difficulty in the midwifery of the neighbourhood fully detailed, the merits of professional attendants discussed, their skilfulness lauded, or their ignorance denounced, by their respective admirers or detractors, until the poor creature's head is full of doubts and fears, and apprehensions, she waits the trial of her sex with trembling, and when the hour comes it finds her weakened and despairing. If the slightest obstruction occurs, she gives herself up for lost. If a symptom presents itself, which she has heard from her garrulous friends was dangerous, her agitation becomes alarming. She watches every movement of the doctor, and it is well for him if he is enabled to bear her safely through her mind-caused peril. Nothing, obviously, can be more detrimental to a pregnant woman than the infamous practice of detailing, in senseless gabble, the wretched tag-ends of a midwife's tale. If such conduct is to be reprobated and repressed in those who have no professional interest in the matter, yet louder and stronger must be our condemnation when we find any of our noble and learned profession emulating these gabbling matrons, with the shameful intent of enlarging their practice, at the expense of rival practitioners, by detailing to pregnant women their real or invented failures, and leading them to believe that their only chance of getting over their confinements is by dismissing old and tried attendants, and employing them. Oh! would that such a man—and I, indeed, believe there are but few such—could feel, for ever so short a time, the agony and distress of mind his wretched slander has caused the patient. It might, in some sort, punish him for the prostitution of his glorious office, and the degradation of his high profession.

The nature of the treatment which I have myself tried, and believe to be the only one capable of overcoming the malady, may possibly have suggested itself in the remarks already made. It is, from the *very commencement* of the disease to give, largely and freely, *stimulants* in the shape of wine and brandy; and, as medicine, bark and carbonate of

ammonia, unless contra-indicated. This I believe, and have found, will give nature a better chance of overcoming the disease, and will probably prevent any sudden and irrecoverable sinking. I would advise the same treatment in the case of those whose mind is in any way disturbed. I have lately treated such a case, and, from the hour of delivery, gave the patient *stimulants*—a pint of wine in the 24 hours. This had the effect of raising and sustaining the nervous system, which was greatly and alarmingly depressed; and a case, of which I well nigh despaired before parturition, was conducted (by supporting the system, and keeping the mind and spirit in agreeable play) to a perfectly satisfactory issue. However the use of alcohol, when in health, may be questioned or reprobated, of its wonderful efficacy in these diseases I have not the slightest doubt; but it must be used *from the very first*. The effects produced by its exhibition in the last stages of disease, however transitory, too often, from the far-gone weakness of the patient, prove to a demonstration the folly of not employing it from the first. I know that these opinions are contrary to those of many eminent and learned fathers of our art, but medicine is eminently a *progressive science*, and “we know not what a day may bring forth.” Your trial of the treatment proposed for the disease under consideration may be safely attempted; it cannot increase a mortality sufficiently alarming. It may—I believe it will—decrease it. Let the motto of our treatment of this disease, with regard to the exhibition of stimulants, be this:—

“If it were done, when 'tis done, then 'twere well it were done quickly.”

14th March, 1863.

DR. A. W. FOOT read the following paper on *Fatty and Piliferous Tumours of the Ovaries*.

I must commence by apologizing for bringing forward so trite a specimen as an ovarian tumour; but as the senior members of this society have invited the exhibitions of any preparation connected with obstetric medicine, no matter how common, I have been encouraged to bring, to-night, an example of the piliferous ovarian cyst, which, though far from rare, may possess some points of interest; and to the physicians of the Meath Hospital I am indebted for the use of this specimen. This tumour was developed in the right ovary of a married woman, 40 years of age; she had borne children, and her death resulted from another cause—namely, jaundice, from mechanical obstruction of the bile ducts. The entire ovary was implicated in the disease; it measured in circumference, $13\frac{1}{2}$ inches, and weighed 1 lb. 9 oz. Its contents were composed of a soft, grey-coloured, adipose mass, inodorous and granular; intimately intermixed with this was a quantity of hair, much of which adhered to coriaceous plates lining the interior of the tumour. These

condensed portions of the inner wall of the cyst seemed in some places on the verge of bony organization; and where this tendency to ossification existed, there the inner periphery of the cyst was congested and vascular; elsewhere it had the pale colour of the fibrous tunica of the ovary. The tumour also contained some very imperfect rudiments of the cranial bones. The contents were scooped out through a small opening, into a basin containing a warm alkaline solution; the whole of the pul-taceous mass dissolved herein, excepting, of course, the hairs and some of the harder caked portions in which the hairs were embedded; these parts are in this small bottle. The ovary had contracted no pelvic adhesions, but was firmly attached to the great omentum (which was unusually vascular), being fixed to it in front and posteriorly. These connexions involved it in the motions of the stomach and transverse colon, and may partly account for the elongation of the right ovarian ligament, which was six and-a-half inches long, while the left one was three. The contents of the tumour have been replaced by tow, in order to preserve its shape and size. This woman had borne five children; the youngest was 18 months old; she was sensible of late of the existence of a pelvic tumour; and on one occasion wished to know whether she was pregnant or not; she did not believe herself to be so, but could not otherwise account for the enlargement and uneasy sensations in the pelvis. Her abdomen presented also two other tumours, an enlarged liver, and a distended gall-bladder, so that the condition of the belly was almost a medical puzzle; but as the hepatic enlargements were obviously connected with her state of health, all attention was directed to them. The jaundice, for which she was admitted into hospital, daily grew more intense; and after a few weeks the final symptoms of biliary intoxication made their appearance, and she died in a state of deep coma.

A malignant tumour in the head of pancreas had involved the orifice of the ductus communis and cancerous deposits were disseminated through the liver.

Her body afforded examples of two pathological conditions, one tending to general, the other to special destruction, and exhibited two varieties of new formations, each individually, but in a different manner, proving the truth of the doctrine of Virchow, that "every kind of new formation is really destructive."^a The first new formation was that product of cell multiplication to which the name cancer is given, and the epithet malignant appropriately attached; it proved destructive to life. The second new formation, starting from some pre-existing cellular elements in the ovary, multiplied, and in obedience to the laws of matter, it became necessary that some of the elements of the body, in

^a Cell. Path., p. 442.

which the development took place, should cease to exist. Accordingly there were no stroma, no Graafian vesicles, no vascular or nervous structure, in short, no parenchyma of the ovary remaining; all were supplanted and replaced by anomalous tissues; the new formation had proved destructive to the ovary. It is with this latter variety of new formation we are now alone concerned. The fatty element preponderating in this tumour, the first point is to consider its textural value. Fat appears in the animal body under three aspects:—First, as a necessary appurtenance to the class of tissues called adipose; its existence here affords a criterion of the well-being of the individual; this is physiological fat; secondly, it appears in a purely transitory character, in the intestinal villi during the absorption of digested adipose matter; and is, thirdly, found in that series of processes known as fatty degeneration, to which nearly all structures (except the red blood corpuscles and the nerve-fibres of the great nervous centres) are liable; whereby minute globules of fat become present among the cell contents, and a degenerative change, a retrogressive metamorphosis is set in action, the tendency of which is towards organic death. Under this latter category appears to come the fat of the fatty ovarian tumour, and this view seems to coincide with that held by Cruveilhier, who considered it to have an analogy to the corpse fat, referring, no doubt, to the animal soap adipocere, which arises, under special circumstances, out of the decomposition of nitrogenous bodies. The fat of these ovarian tumours is frequently, during the life of the patient, in a liquid condition; it flows out through the canula, and it often presents, while the patients are alive, the physical signs of a fluid, though it is found solidified after death. It may be again melted by a temperature of 85°, a good deal lower than that of the body. This helps to distinguish the fat of many of these tumours from the first order of fats—the physiological fat—as they appear in their natural and appropriate situation, the adipose tissue, and reduces it to the lower grade of pathological fat, which is found fluid and oily in senile atrophy of bone, and in the advanced stages of wasting diseases, and exists free in the blood; in aggravated cases of fatty degeneration of the muscles, this third and lowest form of fat contains more than the proper amount of the fluid proximate principle elain, and less of the solid principle, margarine, than the healthy fat of the first order.

Next in frequency to the formation of fatty matter in the ovary comes that of hairs, which may vary in length from a few lines to several feet; they may be attached to the parietes of the cyst, or be free; they may have well formed bulbs, or be without them. There is no necessary correspondence between the colour of the ovarian hair and that of the female in whom they are found; its colour is most usually red, or of some allied tint. In

* Virchow's Cell. Path., p. 320.

this case it is of a light reddish brown, while the woman's hair was black. Whenever there is hair on these tumours there may be teeth. Becquerel states teeth are never found unless hair be present; they are usually of the first dentition, but may be permanent teeth; the greatest number which has been found is recorded by Ploucquet, met with 300 in one cyst. Rokitansky remarks that the occurrence of hair and teeth is a peculiarity which reminds us of the congenital deficiency of both hair and teeth which is sometimes observed, as in the renewed dentition which is associated in the aged with a new growth of hair.^a We find that the structures most commonly met with in these cysts come under one or other of the first two categories of the classification of tissues put forward by Virchow as an improvement on the 21 classes of Bichat; they being either epithelial formation or forms of connective tissue; much more rarely are the third or fourth class of structures found in these tumours—namely, muscles, nerves, vessels, or blood.

The question now arises, what gave the first impulse to this metaplasia? If such simple, fatty tumours of the ovaries only occur in the adult female we might feel assisted in the explanation of them by the consideration of the structure of the corpus luteum, true or false. The yellow layer which forms the external wall of, and gives the name to, these appearances in the ovary is of the third order of fats; the red mass of a corpus luteum consists of thrombus, or blood-clot. The external mass is composed of fattily degenerated cells, and the yellow colour which it bears is occasioned by the refraction of light produced by the numerous minute particles of fat. The usual yellow colour of adipose tissue is not a real colour, as may be proved by altering the relative proportions of the particles; it is a phenomenon of interference, and is caused by the multiplication of refracting points between the extremely minute particles of the different proportions of fat, and the degree of its division, producing a great number of varieties of colour.^b The establishment, then, of a fatty deposit in connexion with both true and false corpora lutea may, for a moment, appear to afford a *locus standi* for those who hold that the fatty tumours owe their existence to the extravagant development of adipose tissue, normally scanty; but the ground is taken from under their feet by the discovery of their cysts long before the advent of puberty or establishment of menstruation, and, consequently, before the existence of a corpus luteum.

The explanation of these tumours was, till lately, based on either of two principles—extra-uterine fetation or spontaneous generation—neither of which could stand the tests applied by improved scientific resour-

^a Vol. iii., p 103.

^b Virchow Cell. Path., p. 346.

One hundred and twenty years ago we find Astruc, physician to Louis XV., teaching that these hairy tumours, which, he says, "have intoxicated the brains of theorists," are *easily* explained as aborted conceptions; the impregnated egg, with its teguments, remaining in the ovary till it forms a kind of steatomatous mass, the fetus being putrified therein; but that the hair, being more incorruptible than the rest of the body, it still enjoys a kind of vegetation, just like the hair of most other dead animals, which, after death, grows longer; and he declares that he "has never hesitated to assert that all young women in whom he found such tumours had had some commerce with men."

Diametrically opposed to such views are the facts brought forward, 100 years later, by M. Pigné (*Bulletin de la Soc. Anat.*, 1846, T. XXI., p. 200); for in 18 cases of these piliferous ovarian cysts collected by him, five occurred in unmarried females under 12 years of age; six in young girls from six months to two years old; four in female fetuses arrived at the full time; and three in fetuses aborted at the eighth month.

But these enlightened views had been heralded by Dr. Baillie, who first questioned the old explanation of the facts by extra-uterine ovarian conception, in consequence of his having discovered these productions in a female child of 12 or 13 years old; and his ideas on the subject, published in the *Philos. Trans.*, were that these formations may arise from an action in the ovarium itself, without any stimulus from the application of the male semen. These charitable views are, no doubt, consolatory in cases such as occurred to Mr. Spencer Wells and others, when great distress has been caused in a family by the fact of portions of bone and teeth coming away from an ovarian cyst, and being discharged by the anus, the supposition being that it was a case of extra-uterine fetation, and that a young lady must have been imprudent.^a I need not say how steadily Astruc would have supported the view of impregnation.

Professor Simpson, alluding, in his lectures, to the stearoid tumour of the ovary, says the cause of the production of all these highly-organized structures in the interior of a morbid growth forms an interesting, but very difficult and debatable subject of pathology, on the investigation of which he declines to enter.^b

Rokitansky thinks the adipose cyst, like the fluid cyst, is, undoubtedly, often formed from the Graafian vesicle, and considers that the inflammatory process is particularly liable to give the first impulse to this metamorphosis.^c The weight of evidence seems to incline towards the view that these formations are congenital; they are known, and have been found to exist in the earliest periods of life—even before the body

^a Medical Times and Gazette, 24th March, 1860.

^b Medical Times and Gazette, 29th October, 1859.

^c Vol. ii., p. 336.

they are in has itself been fully formed; and, as the circumstances attending their existence do not attract attention, they may continue long undiscovered. They grow slowly, or remain stationary, as Bequeret says, for 30 or 40 years; do not attain a large size; are generally solitary, and affect but one ovary; are freer from peritoneal inflammatory attacks, and, consequently, from adhesions and perforations, than other tumours of the ovary. Hence, in the long list of ovariectomy cases given by Mr. Clay in his translation of Kiwisch's work, there is hardly a case in which operation was called for on account of a simple piliferous tumour, unaccompanied by other cystic developments.

Paget considers that it is only during the vigour of the formative forces in the fetal or earliest period of life that cysts, thus highly organized and productive, are ever formed;^a and that the formative power manifest in dentigerous cysts is consistent with their occurring only in embryonic or fetal life (p. 90).

The view of the congenital nature of these tumours is confirmed by the history of the occurrence of similar formations in the masculine gland, when the growth is on the exterior of the body, and can be observed from infancy; for, in 11 cases of fetal remains in the testicle, quoted by Mr. Curling,^b all were congenital. "In six cases in which the side was noted it was the right, a preference which has also been remarked in tumours of the ovary containing fetal remains;" and the tolerable nature of the growth may be gathered from the fact, that a man from whom Velpeau removed a tumour containing nearly all the anatomical elements of a fetus, was 27 years of age.

Cruveilhier accounts for these cysts, when they occur in the ovaries of mature females, by extra-uterine fetation; when they are met in other parts of the body, as in the anterior mediastinum, or in the ovary, before puberty, he explains the fact by "parasitic inclusion," signifying thereby the insertion of an imperfect germ in a fully formed one; and this opinion seems to coincide with that of Mr. Fergusson, who thus expresses himself on the nature of this kind of tumour, viz.:—That in their early fetal existence there was an attempt on the part of nature to form a fetus; the development of one was accomplished, while that of the other was arrested.^c

I recollect having, while a student, seen the distinguished President of this Society exhibit at the Pathological Society a large collection of fetal debris which, if I remember correctly, were passed, per anum, by a lady; and shall conclude by asking for the expression of the opinion of the experienced obstetricians here present on the nature of these interesting and peculiar productions.

^a Surg. Path., vol. ii., p. 85.

^b Dis. of Test., p. 341.

^c Medical Times and Gazette, 24th March, 1860.

TRANSACTIONS OF THE COUNTY AND CITY OF CORK
MEDICAL AND SURGICAL SOCIETY.*

SESSION 1862-63.

DR. W. C. TOWNSEND, President.

Remarks on the Treatment of Acute Disease. By DR. CUMMINS, V.P.

Dr. Hughes Bennett in treating of inflammation, says, p. 116, of his *Principles and Practice of Medicine*, "The capillary vessels become over-distended with blood, and the exudation of liquor sanguinis to an unusual amount takes place, constituting inflammation." "How is this to be treated? In the early stage topical bleeding, if directly applied to the part, may diminish the congestion, and the application of cold will check the amount of exudation; but the exudation having once coagulated outside the vessels, acts as a foreign body, and the treatment must then be directed to furthering the transformations which take place in it, and facilitating the absorption and removal of effete matter. This is accomplished by the local application of heat and moisture, the internal use of neutral salts to displace the increase of fibrin in the blood, and the employment of diuretics and purgatives to assist its excretion by urine or stool."

In this passage we have a brief and lucid explanation of the two stages of inflammation, with the indications for treatment their pathology suggests; but the author, in another part of his work (p. 278), tells us that "it requires to be shown, that draining the body of blood can, in the slightest degree, influence the congestion in the inflamed part," as "there the vessels are enlarged, the current of blood is arrested, the blood corpuscles are closely aggregated together and distend the vascular tube, and are in no way affected by the arterial current." The latter doctrine seems to be the one that influences the Professor's practice, and is that also followed by his disciples, among whom my learned friend, Dr. Belcher, may, I believe, be ranked; indeed, ignoring the first stage of inflammation, they call it "exudation," thus leading us to suppose that inflammatory exudation, although consisting of the normal liquor sanguinis, is deposited from the blood, as are the aplastic deposits of cancer and tubercle—a theory which must be false, as inflammation is, at its origin, a purely local affection. Nothing can be more simple and intelligible than the views which are now held by pathologists regarding

* These Reports are supplied by Dr. T. W. Belcher, Secretary to the Society.

the organization and conversion of exudation, and its subsequent absorption and removal from the system, and nothing could accord more exactly with our experience, than the indication for the use of stimulants, which histological pathology thus beautifully opens up and explains. But why should we forget that there is a stage of inflammation during which exudation can be limited, and these elaborate processes of nutrition, in part at least, spared to the patient?

In my last paper on this subject, I instanced croup as an affection which must almost necessarily be fatal, unless exudation can be anticipated by treatment; and argued that, if in this one form of inflammation treatment can be practised with success, prior to exudation, it may also in others.

In truth, those who exclaim against bleeding in the first stage of inflammation, *as an abstract question*, must be in error, as it is necessary for all to admit, that there is a period of inflammation when there is too much blood in the part; and, even, admitting that *after stagnation has taken place in the capillaries* the congestion is "in no way affected by the arterial current," there can be no doubt that antiphlogistics do deplete the capillaries *as long as the blood, although retarded, is still in motion*, and it must be remembered, that in internal inflammations the several stages of the process exist at the same moment in different parts of the organ, so that it requires accurate examination of the patient before the line of treatment fit for any individual case can be determined on. But, while we cannot combat bleeding *in the abstract*, our judgment may be strongly biassed against it, by considering whether the momentary benefit to be derived from general blood-letting in the first stage can compensate for the danger of having too little blood after exudation is poured out, when a full supply of the vital fluid is essential to the patient's safety, in order to prevent his system being overtaxed to supply material for the abnormal nutrition, by means of which alone the "foreign body" can be absorbed.

In conclusion, permit me to lay before you the following propositions, which embody my views on the subject:—

1st. That inflammation may be modified, if not arrested, in its first stage, prior to stagnation of blood in the capillaries.

2nd. That any benefit to be derived from general blood-letting in the first stage is more than neutralized by the debility it causes, and its too permanent influence on nutrition.

3rd. That the first stage of inflammation is most safely combated by means which produce a more transient effect on the circulation, such as tartar emetic, local depletion, fomentations, &c., &c., and that these diminish the subsequent exudation by decreasing the congestion on which it depends.

4th. That nutrients and stimulants are almost always necessary in the second stage to further the transformations through which exudation

must pass, before it can be absorbed, and thrown out of the body.—
November 12, 1862.

Dr. BELCHER exhibited the intestines of a man who had died in the Fever Hospital, and read the following account of the case, drawn up by Dr. Joseph O'Kelly, acting Resident Medical Officer, who made the *post mortem* examination :—

Maurice Fitzgerald, aged 45, a pensioner in the East India Company's Service, admitted into hospital, November 17th, under the care of Dr. Beamish. He says that he has been complaining for the last week of constipation of the bowels; never suffered from it heretofore. He also complains of much difficulty of breathing; appears greatly oppressed, and refers to the throat as the seat of agonizing pain. He attributes his symptoms to the use of a bad description of vegetable food, and to the drinking of porter, which, no doubt, was bad also, as he had been residing in a brothel of the vilest description for a month previous to admission to hospital.

The abdomen was enormously enlarged, and some pain was felt on pressure; pulse quick, and tongue foul.

He got 10 grains of calomel and a common enema; a large quantity of water was injected, but it passed off immediately.

He had, after this, plenty of purgative medicines; the long tube was also passed; he was well supported by stimulants, but without success. He died on the 18th.

Post mortem examination.—On opening the abdomen, several gallons of fluid, mingled with pus, escaped; the intestines presented marked appearances of congestion; and the ilium, more particularly, showed a brilliant vermilion colour, which lasted for several days. There was not any appearance of invagination or obstruction of any kind.—*Nov. 26, 1862.*

The SECRETARY read the following communication :—

Case of Vesical Paracentesis in Retention of Urine, from Enlargement of the Prostate Gland. By FRANCIS M. LUTHER, M.D., Clashmore, Co. Waterford.

James French, aged 63, labourer, sent for me in haste on 16th February, 1862. He was suffering from complete retention of urine, caused by enlargement of the prostate, which had, for four years, rendered micturition difficult. It being impossible to pass a catheter, and the bladder being enormously distended, causing great distress and frequent vomiting, I tapped that viscus (having previously punctured the skin with a lancet)^a about an inch above the symphysis, and passed a small catheter through the canula; I thought it advisable to leave both in the

^a Erichson directs an incision *an inch and a-half long* to be made previous to tapping.

bladder in order to avert the occurrence of recession of that organ, and possible extravasation of urine. The bowels being confined I gave him and ounce and a-half of castor oil, and ordered gruel diet.

Next day I found that the bowels had acted freely, that the canula had slipped out, that the catheter was still in the bladder but evidently choked, for no urine came through it, and the bladder was again distended. On the 18th I drew out the catheter, and its withdrawal was followed by a spout of urine. Dreading extravasation I reintroduced the trocar and canula as speedily as possible, and, again fixing the catheter, obliged the man to sit up in a chair to secure the position of the instruments, notwithstanding which precaution I found, on my visit next day, that owing to his neglect they had again slipped out.

I now tapped him with a very large trocar and canula, but did not again introduce the catheter; I ordered him to take a scruple of muriate of ammonia every three hours. From this time until the 26th I tapped him every day with a small hydrocele trocar. On the 23rd I had to administer an enema to remove a colic and constipation; it had the desired effect. On the 26th I succeeded in introducing a silver catheter, No. 8, into the bladder, and passed it every day up to the 6th of March, when I was again obliged to tap him for several days successively until catheterism became again easy.

At this stage I mixed equal parts of laudanum and water, and ordered a teaspoonful to be taken every three hours. This enabled him to pass a good deal of urine, though not to empty the bladder completely, but catheterism or tapping was still occasionally required. The patient himself attached great value to the use of the tincture of opium, and I believe took it in larger doses than I prescribed. It never narcotized him.

On the 14th I tapped him, and on the 15th employed the catheter. On my next visit I was provoked to find that the urine now flowed through the fistulous opening made by the trocar. I now was very apprehensive of cellulitis, the more so that there was some slight fever and dryness of the tongue, but evidently perfect adhesion of the bladder to the abdominal wall had occurred, for those symptoms speedily disappeared. I allowed a catheter to remain for two days in the bladder, and the fistula closed, but it could not be longer tolerated by the patient, and on its removal the fistula reopened.

I now left it open as a safety valve, and adapted a urinal by cutting the top off an India-rubber pessary and fastening it over the fistula with a four-tailed bandage which kept him dry, he continued to pass urine thus for a month when the fistula closed spontaneously. He is now (20th October) able to pass urine tolerably freely by the urethra, though he still suffers from irritability of the bladder and frequent micturition. He has worked as a labouring man throughout the summer.

Shortly after writing the foregoing article I was again called on to

attend French; I found him suffering from colic and obstruction of the bowels; I applied the usual remedies without effect. When the obstruction had continued for nine days, retention of urine supervened. I tried to pass the catheter ineffectually, though as I did so a few drops of urine flowed through the old fistula; I then attempted to pass a probe into the fistula, but did not succeed in doing so; I now drove the trocar and canula through the fistula up to the hilt. It passed through a semi-cartilaginous substance giving the sensation of a scirrhus cancer, but no urine flowed through the canula. I concluded the trocar was not long enough to perforate the adhesions, and passed the sharp end of a probe through the canula about two inches farther, the resistance ceased, and, as no urine flowed, I presumed it pierced the prostate gland and rectum.

As a last resource I gave him a drachm of laudanum, and directed him to take large doses frequently during the day.

On my visit next day I found the bowels had acted freely, that he passed urine copiously through the urethra, and that he was relieved in every respect.

For about a week after this he suffered from diarrhea; on its cessation he resumed his work as a labourer in his own potato garden.

The only comment I have to make on the above case is, that tapping the bladder is apparently not a very dangerous operation; where the bladder is dilated, as it was in this case, the supervention of peritonitis need hardly enter into our calculations at all. The relieving the bladder from distension is a great object. Probably it may be the best mode of operation to merely puncture, and use a trocar and canula of mean size, capable of admitting a No. 2 or No. 4 catheter, inasmuch as, if no catheter be employed, the aperture in the bladder may remain or become patulous, and no adhesion occurring, extravasation may take place. A good deal of spasmodic stricture must attend prostatic enlargement, otherwise it is difficult to account for the benefit from the opium.—*December 10th, 1862.*

The SECRETARY also read the annexed communication from RICHARD W. DAY, M.D., M.R.C.S.L., on the *Curious Re-union of an Amputated Toe*.

The following case, which may be worthy of the notice of the society, occurred in July of this year.

I was standing in the Royal Victoria Dock Yard (Passage) one morning and was nervously watching a "young hand" dubbing. He was handling the adze so awkwardly that I cautioned him about it. I had hardly done so when he exclaimed, "I am cut." On going over to him I found the upper leather of his right boot cut across the toes and instep. I had it immediately taken off, and the stocking carefully removed; as this was slipping off he cried out that "his toe was in his

stocking." I found the second toe literally amputated. The adze had cut obliquely, passing in this direction through the phalangeal articulation. The thinnest bridle of skin from the sole of the foot prevented its complete separation. I wish it to be clearly understood that this connecting medium was so thin that it did not include a muscular fibre, it was in fact nothing more than a THIN shaving of the thickened cuticle of the sole. There was smart hemorrhage.

Being, as I said, a witness of the occurrence, and thinking that if there was any virtue in "Conservative Surgery" this was the time to test it, I brought the parts into apposition, and kept them so, by two lateral sutures, a foot splint and a roller steadied the toes and prevented muscular jerking, and a poultice changed night and morning was the only treatment in the progress of the case I found necessary.

During the first week the separated toe appeared as if its circulation was in abeyance; it was livid, cold, and had no sensibility. On the ninth day I was encouraged to persevere by my patient telling me that he felt a slight "tingling" in it; this sensation continued until the fifth week when perfect union was established, and the toe had become nearly as strong as ever.

Acute Rheumatism. By the Vice-President, DR. CUMMINS.

The following case, which occurred in my practice some time since, was so unpromising, and yet benefited so much by the treatment adopted, that I am induced to read a very brief abstract from my notes of it.

Mrs. ———, aged 25, was attacked by severe acute rheumatism, a sequel of scarlatina, about eight years ago. Endocardial inflammation complicated the disease; convalescence was not established for several months, and chronic rheumatism, with palpitation and occasional pain over the base of the heart, have caused much suffering ever since. Twelve months ago she had pneumonia, followed by abortion in the early months of gestation; subsequently she recovered her health tolerably, became again pregnant, and in November, 1861, engaged me to attend her in the confinement, which she expected the following January. I found her pale, with a countenance characteristic of habitual suffering, complaining of a distressing cough, palpitation, insomnia, and cardiac pain; pulse, highly irritable, 120. Physical examination demonstrated the lungs free from disease, but by a rough systolic murmur, diffused over the greater part of chest and epigastrium, most intense over the base of heart, strong impulse, and increased precordial dulness, indicated serious organic disease of the heart. Hydrocyanic acid relieved the cough, and appropriate treatment palliated the other sufferings, although the pulse never fell below 100.

On the 8th of January, labour, which had lasted more than 24 hours, was terminated, with the concurrence of my friend Dr. Harvey, by the

rapid and natural, was
 but, although
 was able to go
 rheumatism,
 was then
 grains of
 ten grains
 were wrapped in
 the murmur was a
 ceased and laudanum

have bowels opened, there
 regular, unequal, and feeble
 in the physical signs; the
 the 4th pulse came down to
 the same as before the fever set in.
 indescribable. A grain of opium and
 hour were substituted for the Dover's
 there was a catch on inspiration below
 ed by a blister; the pills were omitted,
 ery fourth hour, the mixture with laudanum
 beef tea was also added to the farinaceous
 previously supported. On the 9th the opium
 hours, and small blisters applied to the joints.
 palpitation; little articular pain; bowels relaxed;
 13th.—Pulse 90; tongue clean; free from pain,
 or palpitation; there is little articular suffering, as
 the little blisters have been applied to the joints in
 sat up some hours, and was able to walk across the room
 14th.—Convalescing rapidly, the opium pills and alkaline
 laudanum, have been pretty regularly alternated with each
 hour and a-half since; they have never narcotized or made
 , nor have they prevented several free relaxed motions every
 quantity of urine has increased and become natural under their
 diaphoresis has continued, though not to any great extent. The
 appreciable effects produced by such a free administration of opium
 been to relieve pain, check inflammation, anticipate threatened
 mischief, and act on secretions. I now extend the interval of the
 two hours. 15th.—A cold damp south-easterly wind has caused
 of the pains; the alkaline mixture has produced a little sick-
 ch and diarrhea. She is pale and anemic; pulse 84; omit
 ure. To take the opium pills every three hours by day,
 urs when awake at night, and to return to the small blisters
 To take a quinine and sulphuric acid mixture. 17th.—

Pulse 76; pains relieved; omit quinine mixture. 19th.—Pulse 68; as she is now quite convalescent as regards rheumatism I omit the opium pills. After this, for a short time, I continued to give her tonics, and recommended a change of air, which, however, she was unable to obtain. Her health was far better than before the attack until she became again pregnant, with a return of the cough and nervousness, to which faintness is sometimes superadded. The cardiac physical signs are exactly the same as before her illness, and, on the whole, she is not suffering more this pregnancy than the last.

Perhaps there is no disease for which so many specifics are recommended as for rheumatic fever, and yet the experience of most medical men is, not only that it is a very intractable affection, but one that is extremely liable to lapse into a chronic condition, and to leave a sting behind in the shape of organic disease of the heart.

The alkaline treatment seems to be the one most clearly indicated by the pathology of the disease; for if lactic acid, circulating in the blood, is its cause, medicines which chemically neutralize the poison, and, at the same time, eliminate it from the system by the kidneys and skin (as most alkalies do) ought to fulfil the chief indications. It is the mode of treatment too which I think accords best with experience, for I believe those who have tried it generally regret the so-called specifics. But of all diseases the physician is called on to treat, there is perhaps none so painful as acute rheumatism; the sufferings defy all description, and we are generally called on to palliate this symptom. Now, the case I have read illustrates a very important point in the pathology of the disease, viz.: its extreme tolerance of opium; but to prove useful in rheumatism this precious drug must be administered with a fearless hand, for no ordinary anodynes have the least effect. During most of the 21 days this lady was under treatment she took from six to eight grains of opium, and more than a drachm of laudanum every twenty-four hours, still she was never made drowsy or narcotized, and it seemed as if the medicine both directly reduced inflammation and favoured excretion.

This case cannot be looked upon as a fair specimen of the duration of rheumatic fever under alkaline treatment, as it occurred in a bad subject, and was besides more or less complicated; but I am certain that under any other treatment it would have been more prolonged, if the patient had recovered at all, which I considered improbable under any circumstances, so severe was the disease, and so broken down was she at its onset; indeed I congratulated myself very much on having so perfect a recovery even in three weeks, and I place more confidence than ever in the line of treatment which has been recommended by the late Dr. Todd and others, and which I have for some time adopted.

I cannot speak too highly of the value of small blisters the size of a shilling or half a crown over the affected joints, frequently repeated. I

believe Dr. Todd explains their action by the vesicle giving exit to a liquor sanguinis, charged with the lactic acid which nature had directed to the diseased joint, to eliminate it from the blood, but which the blister draws to the surface, and evacuates more directly from the system; but whatever their *modus operandi* these little irritants give such magical relief that after the patient has unwillingly tried a few of them he takes that part of the treatment into his own hands.

It is generally considered that in acute rheumatism deposits may occur on the valves of the heart independent of endocardial inflammation, the increased fibrin circulating in the blood being mechanically arrested by the valves and subsequently organized; now, when deposits already exist on the valves, the result of a former illness, the tendency to a mechanical arrest of fibrin must be largely increased; but in the case I have detailed, although there preëxisted serious valvular disease, no increased deposit was indicated by the physical signs either during or subsequent to the attack, thus showing that the treatment had an influence either in preventing a large increase of the fibrin, or dissolving any undue proportion of it that existed.

CLINICAL RECORDS.

Cases in Surgery. By GLASCOTT R. SYMES, one of the Surgeons of Dr. Steevens' Hospital.

No. I.—*Case of "Loose Cartilage" in the Knee Joint.*—As, I think, many practical surgeons may learn a lesson from an unsuccessful case as well as from one which has turned out well in the result, I have no compunction in publishing the following case:—

Within a very short space of time four cases of "loose cartilage" were admitted into Steevens' Hospital—one under Mr. Colles, two under Mr. Hamilton, the fourth under Mr. Wilmot—some of whose cases were under my care at the time. Three of these cases occurred in members of the constabulary force. In the first three the "loose cartilages" were removed with ease; nor was there any symptom which called for the slightest alarm. However, the fourth case was not so fortunate, as, though the operation, in itself, was successful, yet the patient died some time afterwards, not from disease of the joint, but from exhaustion—the result of diffuse inflammation of the areolar tissue of the leg. The particulars of this case I shall briefly narrate.

On November 11, 1862, Thomas Costelloe, a recruit in the constabulary, presented himself to me, at the Dépôt Hospital, Phoenix Park. He complained that for a fortnight previously he had suffered, at times, great

pain in the left knee, especially when at drill; and he frequently experienced a sensation as though something were moving about in the joint. After his admission into Steevens' Hospital, several attempts were made to discover the presence of a "loose cartilage," but, for some days, without success. One morning he stated that he had it fixed. On making firm pressure over the tendon of the extensor muscles, the "cartilage" shot inwards, and could be distinctly felt on the inside of the tendon, apparently the size of a large bean. After this it could be sometimes easily found; at other times its discovery was impossible, especially when it got to the back of the joint, or when it was situated behind the patella. It never made its appearance on the inside of the joint but on the one occasion; but could generally be readily pressed from beneath the extensor tendon. On two occasions he was placed on the operating table for the purpose of removing it; but as it could not be found, the operation was deferred. On the third occasion, November 22, 1862, it was secured, *but* on the outside of the knee; I made an incision in a vertical direction, to the extent of an inch and a-half, over the "cartilage:" my intention was to make it a valvular opening. The incision extended through the capsule of joint, which is here extremely thick, being strengthened by its connexion with the vastus externus. It could now be felt in a pouch formed by the external lateral ligament, the bones, and the capsule; and out of this it was removed after considerable difficulty. A tenaculum was passed through it, to secure it; the synovial membrane was now cut through, when it slipped out quite easily. The morbid growth was about one inch in length, and not half an inch in thickness. It did not turn out of the joint until one end of it was presented to the opening. As the synovial membrane received very little injury, a favourable result was anticipated in this instance. As in the other three cases, the limb was put on a straight splint; ice poultices were constantly applied; and strict quiet was enjoined.

The patient went on favourably until the 25th (*i. e.*, the fourth day after operation). During this time he slept well, was cheerful, &c., but his pulse was never below 96, a circumstance which was fully accounted for by a consideration of subsequent events; there was no heat or pain in the joint, not even on pressure. However, on the morning of the 25th, he stated that he had not slept well the previous night; the thigh was a little puffed and swollen above the wound; as the bowels had not been moved for some days, he was ordered the calomel and jalap bolus, and to have the thigh poulticed.

On the 26th the limb was considerably more swollen; a small quantity of matter was pressed out of the wound. The limb was enveloped in a large poultice; tongue dry, brown; pulse 120.

27th.—No amelioration of former symptoms; there was now delirium present; the limb increased in size; there was a diffused red blush on

the outside, extending as high as the great trochanter; the original incision was enlarged, and about five ounces of fully-formed pus obtained exit.

28th.—Pulse, 128. The delirium was now of a furious type; he required the constant attendance of three of his comrades to prevent him injuring himself.

I do not intend to weary my readers with the details of a case of well-marked diffuse inflammation of the areolar tissue beneath the deep fascia of the leg; suffice it to say, numerous openings were made, from time to time, wherever the presence of pus was indicated, and that the pus was always accompanied by a very curious, and, as I believe, rare pathological phenomenon—namely, the presence of gas imprisoned in large quantities. In this species of mortification of the areolar tissue it is common to find it in small quantities, as evidenced by the peculiar crackling, emphysematous sensation; but here it was in such quantities that the limb was quite tympanitic; and when an incision was made it escaped with an audible sound, but was not fetid. Although the external intermuscular septum is very strong it did not limit the inflammation, consequently incisions were required both in front and behind it. After some time the inflammation attacked the leg; as in the thigh, it was the areolar tissue beneath the fascia which was engaged; it was accompanied by the very same symptoms, local and constitutional. Throughout he was treated with stimulants administered in the most concentrated form:

Dec. 3.—He was reduced to a very alarming condition by the sudden loss of about six ounces of blood from the original incision; we had a very practical exemplification of what can be effected by depletion, in a subject already much exhausted; for several hours it was doubtful whether he was about to die; however, he rallied from this.

It was not till the fourth week that the joint itself became engaged; its destruction did not take long. The thigh and leg gradually improved, so much so that all the openings closed except two communicating with the joint; the irritation of this, along with a large bed sore, so reduced him that, at a consultation, it was decided to amputate the limb to save life; the operation was deferred, at the patient's request, until his relatives should be communicated with. When they came to Dublin he refused to allow the operation to be performed. He lingered for six days, and died on the 17th January.

At the *post mortem* examination, the thigh and leg were comparatively restored, but the disintegration of the joint was extreme. Not a particle of synovial membrane was to be seen; it and the encrusting cartilage were completely removed, the opposing surfaces of all the bones were also destroyed; the tibia and femur presented an appearance as though a slice had been removed from each with a saw.

It was evident that the subfascial inflammation, extending ultimately to the joint, was the cause of death. It will be borne in mind that there

was not the slightest symptom of the joint being engaged, until the fourth week.

In all four cases the extraction by valvular incision was the method had recourse to; in the three favourable cases on the inside of the joint; the subsequent treatment by ice, &c., was the same in all. Although one cannot generalize from the consideration of a single case, still, taking into account the anatomy of the part, and the comparatively superficial situation of a "loose cartilage," when on the inner side of the joint, I think that, if possible, the operation should be performed on the inner side.

In the above case I had no choice, as I never could get the morbid growth in the situation which I should select.

If a similar case were to present itself to me now I am sure that I should consider myself justified in delaying till such time as I could succeed in fixing the "cartilage" on the inner side of the joint.

The mortality in these cases is very great, being about one in six, according to M. Larrey. Having in one case seen a "loose cartilage" attached to the synovial membrane, in the situation of the alar ligament, I have no doubt but that such morbid growths should be considered the result of inflammatory action attacking the synovial membrane, and causing hypertrophy thereof in the situation of those fringes which are known to anatomists, in the front of the joint, and which have been very improperly dignified with the name of ligaments; the absorption of the pedicle, by which such a growth is connected, fully accounts for the sudden accession of the symptoms which evidence the presence of a loose body in the knee joint. If these growths were formed in any of the other methods suggested by pathologists the symptoms would be more gradual; but, as far as my experience goes, this is not the case.

No. II.—*Strangulated Femoral Hernia; Operation; Erysipelas; Recovery.*
—I have often heard it remarked by experienced surgeons that there is no surgical disease requiring operation which presents itself to the practitioner under such different aspects as strangulated hernia; and that, in fact, no two cases are alike. Hence I think the two following cases are not altogether devoid of interest:—

Terence Lynch, aged 58, residing at the Strawberry-beds, was sent to me by my friend, Dr. Maguire, of Chapelizod, on the 27th January, 1863. He was admitted to Steevens' Hospital, under Dr. Wilmot, to whose great kindness I was indebted for the charge of the case. He was labouring under all the symptoms of strangulated *femoral* hernia of the left side. According to his account the hernia was of long standing. The strangulation had existed for 36 hours before admission. The tumour was the size of an apple, but, by manipulation, Dr. Maguire reduced it to the size of a chestnut; further than this he could not succeed.

On admission, late on the evening of the 27th January, he had vomiting, but he stated that he was much better since the reduction in the size of the hernial tumour; although he had had no motion from the bowels, yet he was not suffering so much pain that he was ordered a full opiate. Next morning it was very apparent that the strangulation still existed; in addition, he was reduced in a very great degree, the pulse being quick, thready, and weak; consequently, assisted by my colleagues, I performed the operation for the relief of the stricture in the usual manner, and opening the sac. Having divided the stricture, the gut, of which the hernia altogether consisted, was returned. Chloroform was not used, the patient being considered too weak; in fact he was supported during the operation by stimulants. On the same afternoon there was a motion from the bowels. This old man was the subject of a chronic cough. On the 30th January erysipelas attacked the wound; numerous abscesses formed in and about the part. The erysipelas was of the erratic type—on one day almost disappearing, on the next returning in some other part. On one occasion it disappeared, the patient being attacked by congestion of the lungs, which, on its removal, was superseded by a fresh attack of the erysipelas. He was discharged from hospital February 23rd, suffering still under œdema of the leg. I had frequent opportunities of seeing him afterwards; his recovery was rapid, and he is now able to take unusual exercise for a man of his years.

No. III.—*Case of Strangulated Femoral Hernia; Operation; Fecal Fistula; Spontaneous Recovery.*—Philip Murphy, a native of Skerries, aged 56, admitted 2nd May, 1863, suffering from all the symptoms of strangulated femoral hernia of the left side; had never worn a truss; the hernia was of two years' duration, and reducible. As far as I could learn, the hernia was strangulated but for 24 hours, as, on the day before admission, there was a motion from the bowels. On feeling pain in the tumour, he applied to my cousin, Dr. Symes, of Skerries, for relief, who, after trying the usual means for reduction unsuccessfully, sent him up to Steevens' Hospital. This old man had chronic bronchitis for years; in addition, his pulse was slow and intermittent. Failing to reduce the hernia, with the assistance of Drs. Colles, Hamilton, Fleming, and Wilmot, I operated in the usual manner. The sac was of great size—as large as an apple—and contained about two ounces of bloody serum; at the bottom could be seen the gut, quite brown, the size of a cherry, firmly constricted and immovable. On dividing the stricture it was readily returned into the abdominal cavity, but it came down again. This tendency was greatly increased by the cough; no means that I could devise would retain it in its proper situation. As there had been no motion from the bowels 48 hours after the operation, a warm soap-and-water enema was administered, which was followed by a copious normal evacuation; the other symptoms of

constriction were removed immediately after the operation. He went on well until the seventh day, viz., 8th May, when my attention was drawn to a remarkable change in the discharge from the wound, it now being brown, of a peculiar acrid fetid odour, but not as fetid as fully-formed feces. On the next day there was not the slightest doubt but that a fecal fistula was fully established; at one time during the day half a pint of fecal matter was discharged; it could at any time be forced out of the opening by making firm pressure on the abdomen. When at stool the discharge was not increased. From this date the discharge daily decreased until the 15th, when it subsided altogether; nor have I or any one else been able to detect any since.

In the first of these cases the partial reduction of the hernia was a remarkable fact, and calculated to mislead; the poor man's subsequent recovery from erysipelas, and from numerous abscesses, was not expected; but this day he is in the enjoyment of the best health. In case No. 2 the duration of the strangulation was short, yet it was followed by sloughing of the intestine to a certain extent. The spontaneous cure of the fecal fistula, without the slightest interference, is a matter worth putting on record; the size of the sac I believe also to be unusual.

It is very curious how much more common femoral hernia is in the male than is usually supposed. During the last four years several cases have been operated on, for the relief of strangulated hernia, in Steevens' Hospital; they were all, without exception, femoral.

I have Mr. Fleming's authority for stating that his experience at the Richmond Hospital has led him to a similar conclusion.

To what fact are we to attribute the greater mortality after operations in these cases in hospitals? Surgeons who operate in the country show a much more favourable result than hospital surgeons. Several surgeons, from various parts of Ireland, with whom I am acquainted, and whom I have questioned on the subject, show a much larger proportion of successful cases than hospital surgeons, who, it would be at first imagined, had at hand all the necessaries for treating these cases successfully. Is this greater mortality in hospitals due to the (generally) late operation, or to the excessive amount of manipulation the tumour receives previous to admission, by the surgeon having charge of the case; and afterwards from the hands of the many surgeons and anxious students in attendance on a metropolitan hospital?

Cases of Aphonia Treated by the Direct Application of Electro-Galvanism to the Vocal Cords. By PHILIP C. SMYLY, M.D., T.C.D., Surgeon to the Meath Hospital.

The following two cases have a special interest, as being the first in which galvanism has been applied directly to the vocal cords in this

country. My attention was first attracted by the very interesting paper on the subject by my friend, Dr. Morell Mackenzie, in the *Times and Gazette* of February last. I at once obtained the instrument, and employed it in the first case which presented itself in the hospital.

Ellen B., aged 46, a widow, for about six years has been subjected to great privations; constantly over-worked, and exposed to wet and cold in her occupation as a laundress; has had three children; monthly periods ceased two years ago.

She was admitted into the Meath Hospital on the 30th of April, under Dr. Stokes, with *mute aphonia*, which came on suddenly, without pain or dysphagia. This condition was of about three weeks' standing. She has had a cough for about a year.

The voice is reduced to the lowest whisper; and even a violent effort does not elicit the faintest sound.

On examination with the laryngoscope, the larynx appeared healthy in every respect; no swelling, thickening, or abnormal redness. The arytenoids acted, but the vocal cords lay perfectly flaccid.

May 7th.—Electricity was applied by means of Dr. Mackenzie's instrument, the current being directed from the points of the arytenoids through the vocal cords. On the 8th the application was repeated. There was considerable coughing, with copious expectoration. Immediately after she could sound the voice so as to be heard at the distance of several yards. The voice is very rough and unequal. Repeated again on the 12th. The vocal cords closed distinctly, and vibrated naturally, immediately after this application. She declared she could speak without any effort.

June 17th.—Saw E. B. The voice is strong and natural as after the application on the 12th.

For the particulars of this case I have to thank Mr. Richards, one of the most diligent and attentive pupils of the hospital.

Case II.—Mrs. X., mother of seven children; rather anemic, but not thin. Suffered much from floodings at her confinements.

Eight years ago she had hooping-cough. Since then she has suffered every winter from loss of voice. Last August, after a slight cold, she completely lost her voice, and has not since recovered it. I saw her for the first time on the 22nd of June, 1863, with Dr. Stokes. Examined her with the laryngoscope, and found the larynx healthy, and the aphonia to depend upon relaxation of the vocal cords, and advised the employment of electricity, which I accordingly at once applied by means of Dr. Mackenzie's instrument. This is a very interesting fact; for many have stated that the education necessary for the patient to go through renders this instrument useless in acute diseases. In this case, in about twenty minutes, the pharynx was not only tolerant of the mirror, but I

was able to touch the arytenoids sufficiently firmly to pass the current from them through the vocal cords to the other conductor, which was applied externally to the thyroid cartilage.

On this occasion the current was very feeble. After two or three applications Dr. Stokes thought he heard a faint sound at the very end of a violent effort on the part of the patient to say *ā*.

On the 24th the application was repeated, and a stronger current employed. After this she could say *one*, but not two or three. She could also sound parts of several words; but a very great effort was required to do so. On 25th the current employed was very strong, and the application repeated frequently during an hour. After this application she could count and speak with ease.

26th.—She called to say that her voice was perfectly restored, and that she was going to the country that day quite satisfied.

July 13th.—Dr. Stokes received a letter to day from this lady saying her voice was as perfect as when she left town.

A short notice of a case of Dr. Mackenzie's will be in very good place here. The patient had aphonia for three years, and had been treated by the most distinguished physicians of London without any effect. Galvanism had been tried in every form—externally, for four months, *every day*, without any improvement. After four applications of internal galvanism the voice returned, though it was hoarse. After six it was no longer hoarse, but there was an absence of modulation in the tone. After the eighth the voice was perfect.—*Letter from Dr. Mackenzie, June 22, 1863.*

*Albuminuria and General Dropsy; Recovery.** By THOMAS HAYDEN, F.R.C.S.I., L.K., and Q.C.P., Physician to the Mater Misericordiæ Hospital.

R. H., aged 40, by occupation a harness-maker, was admitted into the Mater Misericordiæ Hospital, under Dr. Hayden's care, on the 12th of May last, suffering from general dropsy. He had been a hard drinker up to 16th of March last, the date of commencement of his present illness. His first and most urgent symptom throughout was a sensation of great debility, often prompting him to lie down in the street. His face is pallid and swollen, feet and legs œdematous to a degree of tension, and pitting deeply on pressure. The peritoneum contains a considerable amount of fluid, as evidenced by fluctuation; urine scanty, high-coloured, specific gravity 1·025, and loaded with albumen, but containing no tube-casts. Pulse regular, of moderate volume, and averaging 70 in the minute; appetite good, especially for dinner; thirst not urgent; bowels confined, and sleep indifferent.

* Reported by Mr. E. J. Renehan, Resident Clinical Clerk.

The treatment consisted in the administration, in the first instance, of active hydragogue aperients of compound colocynth and blue pill; and when the bowels had been sufficiently acted upon, five grains of compound powder of ipecacuanha were given every third hour, together with a wine-glassful of a mixture, every second hour, containing compound spirits of juniper, one ounce; acetate of potash, four drachms, and infusion of juniper, seven ounces.

Under this treatment the bowels became free, the urine much increased in quantity, and the œdema and ascites rapidly diminished; he enjoyed refreshing sleep, and his general condition was so much improved that he requested to be allowed to return home, with a view to resuming the labour of his trade, and was accordingly discharged on the 28th of May, in, apparently, restored health.

The chief interest in this case is connected with the successful administration of an active diuretic, notwithstanding the presence, in large quantity, of albumen in the urine, and other symptoms of Bright's disease, including general dropsy.

I am disposed to regard a high specific gravity of the urine, and the absence of tube-casts, as justifying a favourable prognosis, however long the disease may have lasted, and as furnishing an indication for the exhibition of diuretics. Urine of a specific gravity above 1·020, not containing sugar, or the ordinary ingredients in excess, may be presumed to contain urea in the normal proportion, from which it may be inferred that the epithelium of the convoluted tubes of the cortex of the kidney has not suffered disorganization. This opinion would be strengthened by the absence from the urine of renal epithelium, or its *debris*.

In such a case the presence of albumen in the urine, as likewise the dropsical effusion into the areolar tissue and serous cavities, is probably the result of *primary* vascular congestion of the kidney, to whatever cause due, as distinguished from *secondary* congestion, arising from non-elimination of urea, and the consequent resistance of the renal capillaries to the transmission of an impure blood.

A Case of Pyo-pneumothorax, in which Sudden Death Occurred. By THOMAS HAYDEN, F.R.C.S.I., L.K., and Q.C.P.I., Physician to the Mater Misericordiæ Hospital.

John Byrne, aged 27, labourer, was placed under my care in the Mater Misericordiæ Hospital, on the 27th of last April, obviously in an advanced stage of phthisis; he was greatly emaciated, and suffering from night sweats, short teasing cough, aphonia, and extreme dyspnea; the pulse was 114, and weak; face flushed, and bowels constipated.

The left side was motionless during respiration, and, on measurement, half an inch in excess of the right; the intercostal depressions on that

side were obliterated; percussion-resonance was tympanitic, except inferiorly, where there was complete dullness, changeable with the posture; there was likewise dullness along the spine on the left side, but not of so decided a character; the respiratory murmur was universally absent on the left side; and near the posterior inferior angle of the scapula, over a limited area, a blowing sound of an amphoric character was audible, with inspiration and expiration. Succussion yielded splashing, accompanied with metallic resonance, audible to the patient and the bystanders; the heart pulsed to the right of the mesial line. Mucocrepitus was audible over the entire extent of the right lung, of a coarser character inferiorly, where there was likewise dullness on percussion.

This man's habits had been somewhat intemperate. He had caught cold twelve months previous to the date of his admission into hospital, and neglected to have it treated. Four months subsequently he became hoarse, and then lost his voice. Six months later he was suddenly attacked, whilst in bed, with acute pain in the lower part of the left side, extending to the shoulder, and, at the same time, his breathing became much more embarrassed. He spat a little blood about a week subsequently; and a fortnight before admission he began to suffer from night sweats.

The treatment consisted in the administration of anodyne expectorants; cod-liver oil, with tincture of cinchona; gentle aperients, and nutritious diet. The side was painted occasionally with tincture of iodine; and Dover's powder, to check the perspiration, was given at night in five-grain doses, with satisfactory results.

The patient was apparently not losing ground, the appetite was better, and the night-sweats controlled, when, on the night of the 9th of May, he suddenly expired, without having afforded any premonitory indication of the immediate approach of death.

Unfortunately a *post mortem* examination of the body was not obtained. This would have been interesting in reference to the proximate cause of dissolution, which was probably perforation of the right lung on the night of the 9th of May—a presumption at least warranted by its previous condition, as indicated by the physical signs, as well as by the suddenness with which death occurred.

Podophyllin; Cases in which it was used. By T. H. BABINGTON, M.D.,
T.C.D., F.R.C.S.I. Londonderry.

Finding in *Braithwaite's Retrospect*, Vol. XLV., a paper by the editors of the *Lancet*, and also notes of cases by Dr. Clarke, recommending podophyllin as a valuable chologogue aperient, and having on many occasions been disappointed in the effects of aperients said to

act beneficially in hepatic affections, I determined to make trial of podophyllin. The first case which offered was as follows:—

1. Mr. —, for whom I had prescribed, above a year ago, for constipated bowels, indigestion, and biliary congestion, wrote to me, from a distance, that his former ailments had returned. He had loss of appetite, foul tongue, bad taste in his mouth, foul eructations, pain in right side and epigastrium, constipated bowels, passing at intervals small quantities of clay-coloured feces. Has taken blue pill and seidlitz powders, which have purged him, but without any permanent relief. On a former occasion I had prescribed ox-gall, extract of taraxacum, the compound gentian mixture, with tartrate of soda and kali. I now ordered compound rhubarb pill, half a drachm; ox-gall, one drachm; and twelve grains of podophyllin, to be made into 24 pills, one to be taken night and morning.

In a few days I received intelligence that the pills had acted very powerfully; so much so that, after second day, he had only taken one in the 24 hours; that this produced three copious bilious evacuations daily, and without pain or griping.

I ordered that the pills should be taken every second night, and a simple bitter tonic. Under this treatment all the discomfort was effectually removed.

2. Mr. D., a medical gentleman, has, for months past, suffered from chronic hepatalgia, the pain extending to the point of the right shoulder; has taken calomel, blue pill, extract of taraxacum, with compound gentian mixture; nitro-muriatic acid; these, separately and combined, had been had recourse to, but with little benefit. The stools are invariably deficient in bile. He took one grain of podophyllin with five of extract of colocynth, every night, for three nights. The second dose was followed by copious yellow bilious evacuations, much more copious than had ever followed calomel and colocynth, and without griping or nausea. He omitted the pills for three nights, and then took half a grain podophyllin, with three grains of extract of colocynth, and two of extract of hyosciamus; these he took every second night for a fortnight, with most satisfactory results and complete relief.

3. — Admitted into Londonderry Infirmary, labouring under acute indigestion, with much hepatic congestion. Has been ill three months; has lost his flesh and strength; complains of thirst, nausea, loss of appetite, pain in the right side, obstinately constipated bowels, acidity of stomach, and vomiting at night of whatever food he takes during the day. His urine is high-coloured and loaded with lithates; his pulse very slow, and he is much depressed in spirits. Has taken all manner of drastic purgatives—calomel, castor oil, extract of colocynth, croton oil, &c., &c., and without the desired effect of regulating his bowels. I ordered for him—after cupping him, and applying a blister over the

epigastrium, bismuth mixture during the day, and at night six grains of extract of colocynth, and one grain podophyllin in a pill. These pills acted most satisfactorily, did not cause griping or nausea, and produced copious biliary evacuations.

Under the use of these pills the bowels became regular, and I had the satisfaction of sending him home in about three weeks, as he described himself, "a new man."

I have notes of a dozen more cases in which indigestion, constipation, with deficient biliary secretion were the prominent symptoms, in which I prescribed podophyllin in doses from one grain to two-thirds, or half a grain, combined with five grains extract of colocynth, with the happiest effects. It has been in my hands a most valuable chologogue aperient, certain in its operation, and only in one instance did it gripe or cause nausea. Combined with extract of colocynth I look on it as superior to any combination of vegetable aperient—as scammony with calomel or blue pill, jalap, or senna; more certain in its operation, and not causing griping, nausea, or irritation of the intestinal canal, as these purgatives frequently do.

LONDONDERRY CITY AND COUNTY INFIRMARY, AND CITY FEVER HOSPITAL.

REPORT FOR YEAR 1862.

With some Remarks by T. H. BABINGTON, M.D., T.C.D., Surgeon to the Infirmary.

<i>Return of Patients admitted into and Treated in the City and County of Londonderry Infirmary, during the year ending 31st December, 1862.</i>	
Remaining 31st January, 1862,	71
Admitted to 31st December, 1862,	656—Total, 727
Discharged, cured and relieved,	603
Incurable,	4
Left at own desire,	25
Irregular,	4
Sent to Lunatic Asylum,	1
Died,	36—Total, 673
Remaining 1st January, 1863,	54
<i>City of Londonderry Fever Hospital.</i>	
Remaining 1st January, 1862,	6
Admitted to 31st December, 1862,	96—Total, 102
Discharged cured,	72
Died,	14—Total, 86
Remaining 1st January, 1863,	16

Total number of Days passed by Patients in Hospital,	21,645
Total number of Days passed by Patients in Fever Hospital,	2,288—23,933
Average number of Days passed by each Patient in Hospital,	29½
Number of Beds,	48 Male.
Ditto,	24 Female.
Total,	72
Average number of Beds occupied Daily,	59

Average Cost of Hospital and Fever Patients, including all expenses,	£2	1	10½
Average Cost of Hospital and Fever Patients exclusive of Salaries, Wages, and Annuity, amounting to £496 3s. 8d.,		1	9 10½
Daily cost of each Patient, including all expenses,		0	1 5½
Daily cost of each Patient, exclusive of Salaries, Wages, and Annuity, amounting to £496 3s. 8d.,		0	1 0½

Numerical Abstract of Cases of Diseases and Accidents and Deaths for the Year 1862.

ACCIDENTS.	No.	Died.	ACCIDENTS.	No.	Died.
Burns and Scalds,	8	1	Fracture, Compound, of Leg,	3	
Dislocation of Clavicle,	1		" of Thigh,	7	
" " Humerus,	6		" of Neck of Thigh,	2	
Fractures of Arm,	8		" of Ribs,	6	1
" Compound, of do.,	1		" of Skull,	2	
" of Clavicle,	2		" of Scapula,	1	
" of Foot,	1		" Compound, of Toes,	2	
" Compound of Hand,	2		Injuries of Eyes,	6	
" " of Up. Jaw,	1		" of Head,	11	1
" " of Low. Jaw,	2		" of Spine,	6	2
" of Ilium,	1		General Contusions, Wounds, and Sprains.	68	1
" of Leg,	11				
DISEASES.	Cases.	Died.	DISEASES.	Cases.	Died.
Abcess,	10		Diseases of Spine,	7	3
Anemia,	13		" of Stomach, &c.,	37	
Aneurism of Aorta,	1		" of Testicle,	7	
Apoplexy,	2	1	" of Uterus,	8	
Bronchitis,	35	2	Dropsy,	13	4
Cancer of Axilla,	2		Epilepsy,	3	
" of Breast,	5		Fistula, Vesico-vaginal,	2	
" of Ear,	1		Hare-lip,	2	
" of Face,	3		Hemorrhoids,	4	
" of Foot,	1		Lupus,	3	
" of Jaw,	1		Nevus,	1	
" of Lip, lower,	3		Paralysis,	6	2
" of Nose,	1		Paraphymosis,	4	
" of Oesophagus,	1		Phthisis,	29	10
" of Penis,	1		Pleuritis,	8	
" of Stomach,	2	1	Pneumonia,	4	
" of Uterus,	3	2	Rheumatism,	43	
Catarrh,	23		Skin Diseases,	24	
Chorea,	1		Stricture of Urethra,	2	
Club Feet,	2		Struma,	29	
Cynanche tonsillaris,	4		Syphilis,	15	
Diabetes,	2		Tumours,	5	
Diseases of Brain, &c.,	11	2	Whitlow,	11	
" of Eye,	37		Ulcers,	32	
" of Bones & Joints,	28	1	Fever cases,	96	14
" of Heart,	5	2			

OPERATIONS.	No.	OPERATIONS.	No.
Amputation of Breast, for Cystic Tumour, . . .	1	Operation for Hare-lip, . . .	1
„ „ Foot, for Cancer of Toes, . . .	1	„ „ Double Hare-lip, . . .	1
„ „ Leg, for Gangrene, . . .	1	„ „ Club Feet, . . .	2
„ „ Penis, for Cancer, . . .	1	„ „ Vesico-vaginal Fistula, . . .	2
„ „ Testicle, for Encephaloid Cancer, . . .	1*	Paracentesis Vesicæ, for Retention of Urine from Impermeable Stricture, . . .	1
Removal of Lower Lips, for Cancer, . . .	3	Excision of Carious Bones of Tarsus, . . .	2

The foregoing tables exhibit the total number of cases treated during the year 1862; the cost of each patient; average number of days passed in hospital; average number of beds occupied daily; and a numerical return of the several cases of accidents, diseases, and deaths, which came under observation. Some of the cases were of sufficient interest to require some longer notice.

In the fatal case of burn, the accident—an extensive burn of face, arm, side, and thigh—happened to a man aged 66, subject to epileptic fits. He sunk, and died exhausted, having been in hospital 103 days.

The compound fracture of arm was caused by the man's arm getting entangled in the machinery of a steam saw-mill. The integuments and muscles were greatly lacerated, and both bones obliquely fractured and crushed midway between the elbow and wrist. He recovered, with a very useful hand and arm.

The compound fractures of the hand were caused by the hands being caught between the rollers of machinery for making biscuits in a steam bakery.

The compound fracture of upper jaw was accompanied with an extensive wound of the cheek, of a semicircular form, extending from below the left eye to behind the left ear. The wound was inflicted by a piece of some part of a mortar used for discharging some explosives at a display of fireworks. The mortar burst—several persons were wounded. The cavity of the mouth was completely laid open, and there was considerable hemorrhage, which was controlled by pressure and the application of tincture of matieo. The boy made a good recovery, but retains an ugly scar from the wound.

The compound fractures of the lower jaw were the result of direct violence. In the first case, the patient was struck on the jaw by the point of a cart shaft, and knocked against a gate-post. The lower jaw was fractured on both sides, about midway between the symphysis and angle, and a deep wound communicated with each fracture. Violent acute inflammation of the mouth and tongue set in; and for some days

* The disease attacked the other testicle and inguinal glands two months after the operation.

the patient was in a precarious condition. The second case was caused by a blow of a stone or a stick, and fractured the jaw on left side, and inflicted a deep contused wound. This man had also acute inflammation of the tongue, and lost several of his teeth. Both cases recovered.

The fracture of the ilium was caused by a fall into the hold of a ship. The patient complained of great pain when any movement was attempted which threw the abdominal muscles into action. There was no apparent deformity; but, on fixing the pelvis with one hand, and manipulating the seat of injury, distinct crepitus was detected. The spine, and about three inches of the crest of ilium were detached. The patient made a good recovery, and without lameness.

The compound fractures of the leg were serious cases—two caused by kicks of horses; the third, by the wheel of a railway waggon crushing the leg—the bones were, I may say, pulverized. I had great doubts as to the propriety of attempting to save the limb; the patient was young and healthy; I determined to give him a chance, and had the satisfaction of sending him home with a useful limb, one inch shorter than the other.

The injury of head, which proved fatal, was received on the same occasion as the compound fracture of the upper jaw. The stock of the mortar (made of wood) was torn to pieces by the explosion; a piece of the wood struck the sufferer (one of a crowd of spectators) on his left eye. The eye was knocked out—his face and forehead frightfully contused and wounded—the orbital and frontal bones smashed and driven in; there was considerable hemorrhage—convulsions set in next day, and he died insensible, 40 hours after the receipt of the injury.

A considerable number of cases of cancer came under observation during the year. The cases of cancer of the axilla were both in a state of open ulceration. Three of the cases of cancer of the breast were in a similar condition. In the other two the axillary glands were much enlarged, and the skin adherent to the tumours. Any operative interference was not justifiable. In the cases of cancer of the ear, the foot, the lower lips, and the penis, the diseased parts were removed, and the cases have all done well.

In the fatal case, included under the head of diseases of bones and joints, death was the consequence of acute inflammation of the periosteum covering the tibia. The case had been greatly neglected by his friends before his admission into hospital.

Both the cases of vesico-vaginal fistula were treated by paring the edges, closing the opening with wire sutures, inserted with the tubular needle; all the steps of the operation performed as described by Professor Simpson, in his lectures in the *Medical Times and Gazette*, in the year 1859. One of the cases was successful; in the other the operation was attended with no benefit, owing, I believe, to the wilful disobedience of the patient

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of all directions given her as to position, &c., &c. She would not even allow the catheter to remain in the bladder.

The cases of lupus were much benefited; one of them healed by the application of Dupuytren's powder of calomel and arsenic.

The case of nevus—a large one in a child, situated in front of anterior fontanelle—was effectually treated by passing woollen threads through it, saturated with liquor ferri-terchloride.

The deaths from paralysis require a more extended notice, owing to the unusual cause which, in the first instance, occasioned the paralysis.

These cases will form the subject of a communication on a future day.

Bronchitis, catarrh, and rheumatism were unusually prevalent in the early months of the year, owing to the excessive damp and humidity of the atmosphere.

Fever became prevalent, in the lower parts of the city, from the month of October—102 cases were treated; more than double the number admitted in 1861, and more than one-third above the number of patients in any year from 1856. The mortality appears somewhat above the average; but six of the fatal cases died within 24 hours of their admission into hospital, and may be described as being, on admission, moribund. The cases were nearly all maculated typhus, complicated with bronchitis and pneumonia—in some few instances with gastric irritation and diarrhea. Six of the cases may be classed under the head of typhoid fever. Two of these cases occurred immediately after convalescence from scarlatina.

From the consideration of many cases of fever, and accurate observation of the complications, differences, and distinctions, I feel bound to hold the opinions expressed by Dr. Henry Kennedy, in the *Dublin Journal*, for August, 1862, as well as in his paper read before the Royal Medico-Chirurgical Society, in May, 1862:—"That while these types of fever (*typhus* and *typhoid*) could be distinguished from each other, they should be considered as the result of a common poison."

JOHN MOORE NELIGAN, M.D., M.R.I.A.,

DIED 24TH JULY, 1863,

AGED 48.

It is our painful duty to record the death of Dr. J. Moore Neligan, our immediate predecessor in the Editorship of this Journal, which took place at six o'clock, p.m., on Friday, the 24th July, at his country residence, Clonmel House.

Some years ago Dr. Neligan had a serious illness, partaking much of the characters of diffuse inflammation, and marked by the occurrence of multiple abscesses; since this his health had been more or less delicate; his kidneys did not perform their duties satisfactorily; blood occasionally escaped from them, and there was more or less albumen in the urine; however, by relaxing his labours, residing near the sea-side, and occasionally travelling, these symptoms were alleviated, and his general health improved so much that he was enabled to attend to a large and extensive practice—a practice that had grown so large that for some time before his death he declined seeing patients except in consultation.

On Thursday, the 16th of July, he attended to his patients as usual, but on this day made a change in his clothing, and consequently experienced a chill; next day, however, he came into town, but feeling unwell, returned to Clonmel House and betook himself to the bed, from which he never rose again. The kidneys now almost entirely ceased to discharge their functions, and what urine was secreted was densely loaded with albumen; evidences of blood poisoning quickly showed themselves; effusion into the joints took place; the abdomen became tympanitic; vomiting of blood occurred, and coma set in, accompanied with spasmodic twitching of the muscles, showing a tendency to convulsions.

During this illness he was closely attended by Dr. Bevan, one of his earliest professional friends in Dublin, and by Drs. Mayne and Hudson; but, from the very commencement the symptoms were of too grave a character to allow of any hopes being entertained of their removal, and he himself was well aware of the serious nature of his illness. The prospect of death, however, had no terrors for him, he arranged his worldly affairs, sent his kind remembrances to his friends, especially his professional brethren, and rejoiced to go to his Heavenly Father.

Dr. Neligan was born, in the year 1815, at Clonmel, where his father—who died while he was still a boy—practised as a physician. After receiving a sound elementary education, he repaired to Edinburgh, where, having distinguished himself as a student and acquired the esteem and respect of the University professors, he

graduated in 1836, being then but twenty-one years of age. He now practised for a few months in his native town, but soon moved to Cork; and in 1840, wishing for a more extended sphere, removed to Dublin, where he was almost immediately appointed physician to Jervis-street hospital, with which he continued to be connected till recently, and where he was highly esteemed as a clinical teacher.

In the same year he was appointed Lecturer on *Materia Medica* in the Dublin School of Medicine, which was then in Digges-street, but was soon afterwards removed to Peter-street. Here he at once began to form a museum for the illustration of his lectures, and, assisted by Dr. Bevan, made a collection of such value that it has, very recently, been purchased by the College of Surgeons for the use of their Professor of *Materia Medica*. It soon became evident to him, as a teacher, that the works on *Materia Medica* then in use were not well adapted to the requirements of students or practitioners, and he accordingly applied himself to the preparation of his work on *Medicines, their Uses and Modes of Administration*,* the first edition of which was published in 1843, when the author was not more than seven-and-twenty years of age.

If success be a test of merit—and in such a case as this who would deny it—this was a most meritorious work; for five editions of it have since been sold off, and it is now passing through a sixth, the publication of which is only delayed waiting the appearance of the long-promised *British Pharmacopæia*—a work which we fear his death may still further delay, as he was one of those appointed to assist the Medical Council in its compilation, and was engaged up till the time of his death in supervising its passing through the press.

When a work has gone through five large editions, and is still in demand, it cannot be necessary to dilate on its merits. Suffice it, then, to say that this one is distinguished by the bold course adopted by its author, of omitting the mass of chemical, botanical, and commercial details so constantly found in such works, and devoting his energies to the illustration of the therapeutic actions and the modes of administration of medicines; an object for the better carrying out of which he arranged the medicines according to their physiological actions. Each successive edition received its author's anxious care; but when his publishers intimated that a sixth edition was required he requested that they should obtain the services of Mr. Macnamara, Professor of *Materia Medica* in the College of Surgeons, to revise it, as his state of health and his rapidly-extending practice would not allow of his devoting the same care to it as he had done to the previous editions.

We believe it was his being the author of this work that led to Dr. Neligan's being appointed one of the jurors at the late Exhibition in London.

* Dublin: Fannin and Co.

Dr. Neligan continued to lecture on *Materia Medica* for several years, and, during this time, published many very valuable original essays on subjects connected with therapeutics, of which one on "Electro-Magnetism" appeared in the *Edinburgh Monthly Journal of Medical Science*, and the others, as well as a very able "Retrospect of *Materia Medica* and Therapeutics," appeared in our own pages.

We next find him exchanging his chair for one on the practice of medicine. His then colleague, Dr. Corrigan, having been induced to resign his lectureship on the practice of medicine to accept a similar one in the Richmond School, Dr. Neligan, at the solicitation of the managers undertook the duties of the chair thus left vacant in the Dublin School; and we can ourselves bear testimony to the success which attended his labours in this department, which he continued to occupy till the school was transferred, in 1857, to Stevens' Hospital.

As a teacher of practical medicine, Dr. Neligan's attention was naturally directed chiefly to practical subjects; and our own pages, and the reports of various societies, bear ample testimony to the zeal with which he worked. The variety of the subjects he wrote on, as shown in the subjoined list* of his communications to this Journal, shows that though his attention was ultimately chiefly directed to diseases of the skin, he was no mere specialist.

In addition to the papers we have enumerated, Dr. Neligan conducted this Journal from 1849 till 1861, having succeeded Mr. Wilde in the editorship of it, and resigned it with reluctance on the completion of the 37th Volume of the present series; and we believe we can safely say that the journal, while under his management, maintained the highest character, not only for the value of its

- * 1. Case of Pneumo-thorax with Empyema. Vol. iv., p. 247.
- 2. Cases of Sea Scurvy. *Ibid*, p. 493.
- 3. An Essay on the Diagnosis and treatment of Eruptive Diseases of the Scalp. Vol. vi., p. 29.
- 4. Contributions to the Pathology and Treatment of Eruptive Diseases of the Skin. Vol. viii., p. 340.
- 5. Observations on Hemorrhage. Vol. ix., p. 347. In this paper he treats of Hematemesis and Melæna, Hemoptysis, Pulmonary Apoplexy, and the Hemorrhagic Diathesis.
- 6. Inadequacy of the Aortic Valves, with Pulmonary Apoplexy. Vol. x., p. 491.
- 7. Intestinal Calculus in a Horse. Vol. x., p. 495.
- 8. On Eruptive Diseases of the Face. Vol. xi., p. 326.
- 9. Emphysema of the Lungs. Vol. xii., p. 195.
- 10. On Sulphate of Bebeerine in Intermittents. Vol. xvi., p. 201.
- 11. On Aneurism of the Aorta opening into the Pericardium. Vol. xvii., p. 224.
- 12. On Inflammation of the Rectus Muscle of the Abdomen. Vol. xviii., p. 194.
- 13. On Pulvis Ferri. Vol. xviii., p. 204.
- 14. On a Peculiar Black Discolouration of the Skin of the Face. Vol. xix., p. 293.
- 15. On Diabetes Inipidus. Vol. xxi., p. 209.
- 16. On the Treatment of Porrigio. Vol. xxi., p. 219.
- 17. Case of Strangulation of the Toe. Vol. xxii., p. 212.
- 18. On an Abnormal Condition of the Mucous Membrane of the Tongue and Cheeks in connexion with Life Assurance. Vol. xxxiv., p. 15.

original articles, but for that for which the editor is more directly responsible, the impartiality and value of its reviews; and very many of these were written by himself.

In 1848 Dr. Graves selected Dr. Neligan to edit the second edition of his clinical lectures; and the manner in which this was done contributed, we believe, not a little to the value of this world-famed work.

In 1852 Dr. Neligan's book on the diseases of the skin appeared, and confirmed him in the position he had been rapidly attaining of our leading consultant in these affections. This work is chiefly characterized by its original observations on the diagnosis and treatment of cutaneous eruptions. The descriptions of the several groups of skin affections are remarkable for clearness, conciseness, and rigid plainness of expression; a style which enabled the author to compress much into a single sentence, without in any degree injuring the sense; but, on the contrary, making it more comprehensible and impressive. The diagnosis is made clear and definite, and many original and important improvements in the therapeutics of these diseases are introduced. One thing only was wanting to the completeness of the treatise, and that was well supplied in the volume of coloured illustrations published in 1855.*

In 1853 Dr. Neligan had the honorary degree of M.D. conferred on him by the University of Dublin—a degree made the more valuable by its being conferred on those only who have attained to note and eminence. In the same year he became a Fellow of the King and Queen's College of Physicians in Ireland, of which he was soon made Vice-President; and it is generally understood that the Fellows meant to have elected him President for next year. He was an Honorary Fellow of the Societies of Physicians of Sweden and of Athens, and of the Medical Societies of Cork and Belfast, and an active and influential Member of the Royal Irish Academy and Royal Dublin Society.

Of a commanding appearance, highly favoured by nature in mind and person, his industry was untiring. A true friend, he hesitated not to sacrifice his own to serve the interests of those he esteemed, an instance of which came very recently under our own cognizance, when he declined the offer of a valuable appointment to which he thought another had a more legitimate claim, and expressed himself so as to secure its being given to his younger *confrère*.

In him society has lost a skilful physician—medicine, an able exponent—the profession, a dauntless upholder of its rights and dignity—and we, a valued friend.

* *Atlas of Cutaneous Diseases*, containing nearly 100 coloured illustrations of skin diseases. Dublin: Fannin & Co. 1855. Small folio.

BOOKS RECEIVED, AUGUST, 1863.

1. On malaria and miasmata, and their influence in the production of typhus and typhoid fevers, cholera, and the exanthemata; founded on the Fothergillian prize essay for 1859. By Thomas H. Barker, M.D., &c. London: Davies, 1863. 8vo, pp. 251.
2. The Stethoscope, No. III. A quarterly review of the modern practice in consumption and chest diseases. London: Davies, 1863. 8vo, pp. 60.
3. On rupture, inguinal, crural, and umbilical; the anatomy, pathology, diagnosis, cause, and prevention, with new methods of effecting a radical and permanent cure; embodying the Jacksonian prize essay of the Royal College of Surgeons, London, for 1861. With numerous illustrations. By John Wood, F.R.C.S., &c. London: Davies, 1863. 8vo, pp. 326.
4. Transactions of the Obstetrical Society of London. Vol. iv., for the year 1862. London: Longmans, 1863. 8vo, pp. 338.
5. Report of the committee on military affairs and the militia (Senate of the United States), to whom was referred the petition of Dr. W. T. G. Morton, asking compensation for the discovery and gift to his country and mankind of the application of etherial vapour, as a safe and practical anesthesia, or pain subduing agent, 14th February, 1863. 8vo, pp. 166.
6. On the cure of club foot without cutting tendons, and on certain new methods of treating other deformities. By R. Barwell, F.R.C.S., &c. Illustrated by engravings on wood. London: J. Churchill and Sons, 1863. Fcap, 8vo, 224.
7. The pharmacopœias of thirteen of the London hospitals, arranged in groups for easy reference and comparison. By Peter Squire, F.L.S., &c. London: J. Churchill and Sons, 1863. 12mo, pp. 152.
8. Canada Lancet, Nos. I., II., III., and IV., March, April, May, and June. Montreal, 1863.
9. A clinical memoir on certain diseases of the eye and ear, consequent on inherited syphilis, with an appended chapter of commentaries on the transmission of syphilis from parent to offspring, and its more remote consequences. By J. Hutchinson, F.R.C.S., &c. London: J. Churchill, 1863. 8vo, pp. 259.
10. Excessive infant mortality; how can it be stayed, to which is added a short paper (reprinted from the Lancet) on infant alimantation, or artificial feeding, as a substitute for breast milk, considered in its physical and social aspects. By M. A. Baines. London: J. Churchill and Sons, 1863. Pamph. 8vo, pp. 20.
11. Outlines of a new theory of muscular action; being a thesis read for the degree of Doctor in Medicine before the University of Dublin, Dec. 17, 1862. By the Rev. Samuel Haughton, M.D., F.R.S. Fellow of Trinity College, Dublin. London: Williams and Norgate, 1863. Crown 8vo, pp. 23.
12. Förhandlingar vid svenska läkarsällskapetets sammankomster från och med Okt., 1861, till och med Sept., 1862. Stockholm, 1862. Norstedt, 8vo, pp. 280.
13. Studies in physiology and medicine. By the late Robert Jas. Graves, F.R.S. Edited by Wm. Stokes, Reg. Prof. of Physic in the University of Dublin. London: J. Churchill and Sons, 1863. 8vo, pp. 428.
14. Practical lithotomy and lithotrixy; or an inquiry into the best modes of removing stone from the bladder. By H. Thompson, F.R.C.S., &c. London: J. Churchill and Sons, 1863. 8vo, pp. 274.
15. Dentition and its derangements. A course of lectures delivered in the New York Medical College. By A. Jacobi, M.D., Prof. of infantile pathology and therapeutics, &c. New York: Baillière Bros., 1862. Crown 8vo, pp. 172.
16. The physical, moral, and intellectual constitution of the deaf and dumb; with some practical and general remarks concerning their education. By James Hawkins. London Longman, 1863. Crown 8vo, pp. 104.
17. Zur Diagnostik und Behandlung der chronischen Laryngitis. Ein laryngoakopischer Beitrag von Dr. H. Volger zu Ems. Berlin: Druck und Verlag von George Reimer, 1863. 8vo, pp. 19.
18. The medical and surgical review (Australasian). No. 1, March, 1863. Melbourne: F. F. Baillière. 8vo, pp. 32.
19. Report of proceedings at an international congress held at the Crystal Palace, Sydenham, on the 11th, 12th, and 13th August, 1862, to discuss the general subject of cruelty to animals, and especially vivisection and other operations upon living animals, for the purpose of instruction in surgery. Society for Prevention of Cruelty to Animals. Fcap, pp. 55.
20. Infant feeding and its influence on life, or the causes and prevention of infant mortality. By C. H. F. Routh, M.D., &c. Second Edition. London: J. Churchill & Sons, 1863. Fcap 8vo, pp. 462.

21. The San Francisco Medical Press, April, 1863. 8vo, pp. 64.
22. The nullity of metaphysics as a science among the sciences, set forth in six brief dialogues. London: Longmans, 1863. Fcap 8vo, pp. 104.
23. *Precis iconographique des maladies vénériennes*. Par M. A. Cullerier. Dessins d'après nature par M. Lévillé, Gravures au burin sur acier, 5 Levraison. Paris: Mequignon Marvis, 1861. Fcap 8vo, pp. 73.
24. Report of the Sligo and Leitrim hospital for the insane, 1862. 8vo, pp. 43.
25. Clinical researches on auscultation of the head. By M. Henri Roger, M.D. Translated from the French by A. Meadows, M.D., &c. London: Renshaw, 1863. 8vo, pp. 47.
26. The principal baths of Germany, France, and Switzerland, considered with reference to their remedial efficacy in chronic disease. By Edwin Lee, M.D., &c. Fourth Edition, 1st Vol. Baths of Germany. London: Churchill, 1863. Post 8vo, pp. 308.
27. The watering-places of England, considered with reference to their medical topography and remedial resources. By Edwin Lee, M.D., &c. Fourth Edition. London: J. Churchill & Sons, 1863. Post 8vo, pp. 339.
28. Outlines of surgery, being an epitome of the lectures on the principles and practice of surgery delivered at St. Thomas' Hospital. By F. Le Gros Clark, surgeon to the hospital, &c. London: J. Churchill & Sons. Fcap 8vo, pp. 258.
29. Transactions of the Epidemiological Society of London. Vol. I., Part III. London: J. W. Davies, 1863. 8vo, pp. 432.
30. Lectures on surgical pathology, delivered at the Royal College of Surgeons of England. By James Paget, F.R.S., &c. Reviewed and edited by William Turner, M.B. London: Longmans, 1863. 8vo, pp. 848.
31. *Annales de l'électro-thérapie* vue des applications thérapeutiques de l'électricité et du magnétisme de la physiologie de la pathologie nerveuse musculaire. Par le Docteur A. L. No. 2 Avril, 1863. Paris: Baillière pp. 95.
32. Thirty-third annual report of the resident physician of the Belfast Infirmary for the Insane Poor, from April, 1862, to 31st March, 1863. pp. 32.
33. A manual of ophthalmoscopy, being a practical treatise on the use of the ophthalmoscope in diseases of the eye. By Jabez Hogg, senior assistant surgeon to the Royal Westminster Ophthalmic Hospital, &c., &c. Edition. London: J. Churchill & Sons, 1863. 8vo, pp. 296.
34. *Sevenska Läkare—Sällskapes Handlingar*. Tofte bandet. Stockholm: J. Churchill & Sons, 1863. 8vo, pp. 311.
35. On peculiar appearances exhibited by blood corpuscles, under the influence of solutions of Magenta and tannin. By W. Roberts, M.D., physician to the Manchester Royal Infirmary. From the Proceedings of Royal Society. 8vo, p. 8.
36. The British Journal of Pathology, No. LXXXV.
37. On the diseases, injuries, and anatomical formations of the rectum and anus, with remarks on habitual constipation. By T. J. Ashton. Fourth Edition. London: J. Churchill & Sons, 1863. 8vo, pp. 104.
38. Report of clinical cases treated in the surgical wards of the Royal Infirmary under the care of Mr. Spence, during the session 1861-62. By Frederick M.D., late resident surgeon. Edin. Oliver & Boyd, 1863. 8vo, pp. 104. Reprint.
39. Anatomical and physiological observations (continued). By Struthers. 8vo, pp. 104.
40. Medical report of the Royal Asylum of Aberdeen for 1862. 8vo, pp. 28.



M^r PORTER ON OPERATIVE SURGERY

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PART I.
ORIGINAL COMMUNICATIONS.

ART. X.—*Contributions to Operative Surgery.* By GEORGE H. PORTER, M.B., T.C.D.; F.R.C.S.I.; Surgeon to the Meath Hospital and County of Dublin Infirmary; Examiner in Surgery Royal College of Surgeons Ireland; Consulting Surgeon to the Coombe Lying-in Hospital; Member of Council of the Surgical Society of Ireland; Member of the Pathological Society of Dublin; Lecturer on Clinical Surgery.

1. THE KNEE-JOINT LAID OPEN FOR EXCISION; EXTENSIVE DISEASE DISCOVERED; RESECTION ABANDONED; AMPUTATION OF THE THIGH BY "TEALE'S" RECTANGULAR FLAPS.
2. "SYME'S" OPERATION FOR THE RADICAL CURE OF REDUCIBLE HERNIA.
3. A NEW MODE OF ARRESTING VENOUS HEMORRHAGE AFTER AMPUTATION.
4. EXTRACTION OF A HAIR-PIN FROM THE URINARY BLADDER.

I HOPE that the following cases in operative surgery may prove interesting to the practical surgeon, as they are not unfrequently to be met with in ordinary practice, and as possessing, respectively, very marked characteristics.

I.—*The Knee-joint Laid Open for Excision; Extensive Disease Discovered; Resection Abandoned; Amputation of the Thigh by "Teale's" Rectangular Flaps.*

It is often a matter of extreme difficulty, in disease of a joint, to ascertain, accurately, the full extent to which the bones entering into its formation are damaged. When sinuous openings have formed about the part it is comparatively easy to discover the amount of injury by means of a probe passed through those apertures; but when such do not exist the uncertainty is much augmented. Formerly, I believe, very many limbs were amputated in consequence of the difficulty just mentioned, which would now be saved by resection. Fortunately the success of cutting out the diseased portion causes us no longer to look upon the loss of the limb as requisite; and, on the other hand, the free opening of an articulation to examine its condition in no way interferes with subsequent amputation if too extensive destruction be found within. The case I am about to mention is one which very strikingly manifests the great necessity of ascertaining, beforehand, the state of the ends of the bones, proving that a large amount of disease may be present, when, to all appearances, it was of a limited degree; and that laying the joint open for inspection does not, in any way, prevent further operation, but, on the contrary, would rather suggest exploration, in all doubtful cases, prior to the removal of the limb.

M. S., aged nineteen years, was admitted into the Meath Hospital February 11th, 1863. She gave the following history of her case:—When thirteen years of age, whilst running on an errand, she fell to the pavement on her left knee, and a fortnight afterwards the joint began to swell and become painful. She then gained admission into one of the hospitals of this city, but remained only a few days under treatment. At this period she was lame from stiffness and pain in the knee; but was able to walk about until May, 1862, when, becoming much worse, she sought admission into the Meath Hospital, where she remained nearly five months, undergoing treatment calculated to bring about an ankylosed condition of the articulation. All this time her general health did not suffer to any marked extent. On the contrary, she looked well and fat; and, feeling relieved, left the institution for the country, a strong leather case or mould having been previously placed round the joint. In this state she moved about on crutches, and occasionally visited

the hospital, as an extern patient, up to a week before her last admission, when she was attacked with swelling, excruciating pain in the knee, and frequent startings. On examination I found the joint slightly flexed, but much enlarged, measuring two and a half inches in circumference more than the sound one; it had a globular shape; the sulci on each side of the patella were obliterated, and exquisite tenderness was evinced when it was touched, particularly at the inferior and inner side of the articulation. The lower end of the femur did not appear enlarged; nor did the upper extremity of the tibia seem altered, but it was slightly displaced backwards, and could be moved a little in every direction, on the end of the thigh bone, showing that the ligaments no longer retained their healthy firmness and strength. This motion gave great suffering. The thigh and leg were placed in a well-fitting case which kept the joint in a state of perfect repose, but allowed the front of its surface to be exposed. Leeches were, from time to time, applied, followed by soothing applications; but she began to lose her rest, and suffered great torture. The startings became very distressing at night; and yet, strange to say, her health was not visibly impaired; her appetite continued good, and all her functions seemed to be performed normally. Towards the end of June, however, matters began to assume a graver aspect; she suffered from profuse nocturnal sweats; the pain became so intolerable that sleep was impossible; her appetite, for the first time, failed, and henceforth she daily entreated that the limb should be removed.

Such a state of things could not be permitted to continue; and, in consultation with my colleagues, on the 6th July, it was agreed to excise the joint; her age, state of health, and the *apparently* small amount of disease in the ends of the bones leading to the conclusion that it was a most favourable case for operation. Accordingly, on the 15th July, having had her put completely under the influence of chloroform, I proceeded in the following manner:—She was placed on the operating table, in the recumbent position, the limb having been steadied in the most extended position practicable. With a stout scalpel I made a deep incision along the inside of the articulation, four and a half inches in length, commencing about two inches below the head of the tibia, and extending up two and a half above its articulating surface; keeping here in front of the saphena vein. An incision, similar in length, and on the same level, was made on the outside; and in both of these the knife was carried down to the bone. The joint was then fairly opened by a third

incision across, about one inch above the insertion of the ligamentum patellæ. At this moment some pus flowed from its cavity. I then dissected the lower flap downwards, and also freed the upper, with the patella lying in it. The lateral ligaments were then quickly divided; the anterior crucial was gone. I now carefully, but rapidly, detached the soft parts from the posterior surface of the femur, when the ends of the bones, on being completely exposed, were found to be almost entirely stripped of cartilage. Having applied a narrow-bladed saw behind, just above the condyles of the femur, I quickly sawed them off. The section of bone appeared of a dark red colour, very soft to the touch; it broke down easily under pressure, and was infiltrated with purulent matter. The upper extremity of the tibia was found to contain an abscess, which passed downwards to the extent of an inch or more. With this amount of destruction to bone to attempt to save the limb was out of the question, and amputation was imperative.

It struck me that this was a very suitable case in which to adopt Mr. Teale's mode of amputating; and, accordingly, I prolonged the lateral incisions upwards, about five inches, with an amputating knife; and, having cleared the anterior flap from the surface of the femur, I quickly drew the knife across, beneath the thigh, cutting the posterior flap, as nearly as I could guess, one fourth the length of the anterior. Separating the soft parts from the bone, close to the periosteum, a little way upwards, I sawed it through, and, finding the cut surface at this height healthy in aspect, I proceeded to secure the vessels. My next step was to remove the patella from the anterior flap, which was done with facility. I now folded the long flap over the end of the bone, and attached its free angles to those of the shorter one behind by means of two silver wire sutures, the insertion of six more stitches, two in each lateral and two in the transverse line, bringing the parts into good apposition. When the flaps were brought together the anterior seemed too long, so much so that I was almost tempted to shorten it a little, but desisted from remembering Mr. Teale's statement, that "it often appears superabundant, but in result it is not found to be so, chiefly in consequence of the great retraction of the short flap." The patient having been removed to bed, the stump was laid on a pillow covered with waterproof sheeting, and a large piece of wet lint placed over it. With the exception of changing the lint every morning, no other dressing was had recourse to for six or seven days, and any discharge was with ease cleansed by a sponge from

the sheeting beneath. The wound healed most kindly, and the ligatures came away at the usual period in amputations of the thigh. It would be uninteresting to describe the progress of this case from day to day; but it will suffice it to add, that the stump turned out in every respect such as was desired. A thick soft mass, devoid of large nerves, covered the end of the bone, was movable on it, and formed a good cushion to bear future pressure. The lithograph, by Forster & Co., from a drawing by Mr. Tomsohn (Plate I.), gives a very accurate representation of the stump when healed.

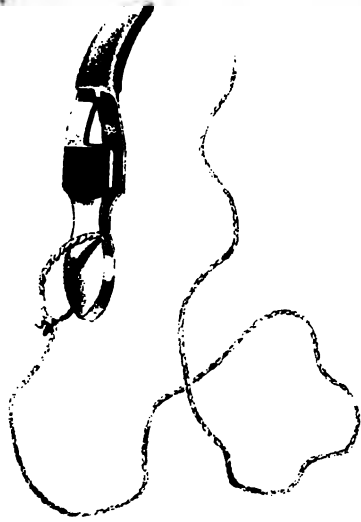
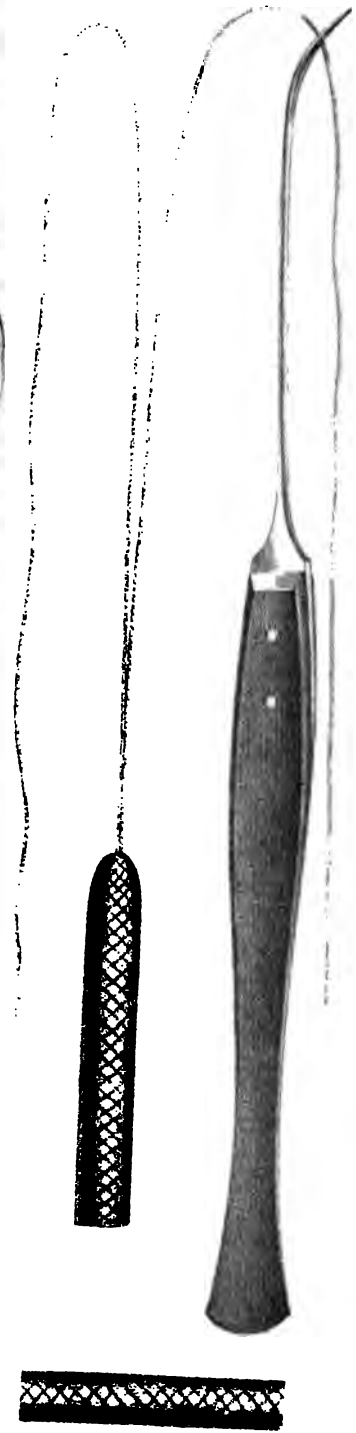
The chief features of interest in this case, I conceive, are:—The extensive disease in the joint, unaccompanied with proportionate constitutional disturbance until a very late period—the absence of sinuous openings about the joint—the great difficulty of forming an opinion as to the extent of damage to the bones—and the facility with which one operation was converted into another. As far as I am aware, it was the first recorded occasion on which this mode of amputating was performed in Dublin; and also, if I am not mistaken, the first case of its adoption where resection was found not to be practicable, and the immediate loss of the limb required. Since this operation, my colleague, Mr. Collis, performed amputation in the same manner in two other cases. They turned out most successfully, and seemed in every way stumps likely to possess all the advantages said to belong to rectangular flap amputations by the distinguished surgeon who first recommended them.

II.—*Syme's Operation for the Radical Cure of Reducible Hernia.*

When Professor Wutzer, of Bonn, suggested his operation for the radical cure of hernia it promised fairly to fulfil all requirements. Surgeons hailed it as one of the great *desiderata* in their art, and hoped that a remedy had at last been found to enable them to dispense with the galling truss. Now, we must remember that in any operative measure for the permanent cure of a rupture, the obliteration of the sac should be effected, as well as the contraction of the hernial aperture. Wutzer's apparatus certainly accomplishes much towards the desired end, by inserting a plug of skin and other textures to fill the deficiency in the abdominal walls, and thus prevent the escape of intestine. The operation is not painful, and is comparatively without danger to the patients; but, although one of the best plans, it may be objected to on some grounds. In recent ruptures, for example, when the opening is not large, the insertion of the wooden cylinder is calculated to widen the ring, and

thus, by tearing asunder the parts, to produce the very result which is intended to be obviated. I am not now, however, about to discuss the merits of operations performed for this purpose, some of them proposed and executed by surgeons of the highest ability; but I merely wish to give my own experience of one which was simple in its performance and most happy in its consequences. I allude to that recommended by Mr. Syme in his *Observations in Clinical Surgery*.

On the 21st May, 1863, a man, aged thirty-five years, a carpenter by trade, was admitted under my care into the Meath Hospital, with a reducible oblique inguinal hernia on the right side, of which he had become the subject, three months previously, whilst lifting a weighty piece of timber. The tumour was not large, nor had it passed beyond the external ring. He suffered pain in coughing, sneezing, or when he made any unusual exertion at his trade. He was at first quite ignorant of the nature of his malady; but, when informed that it was a rupture, he begged that anything might be done which would secure him from the annoyance of wearing a truss, of the discomfort of which he had often heard people speak. Considering his age, good state of health, the small size of the tumour, and the length of time he was suffering from the disease, I regarded it as a favourable case, of which a radical cure might be attempted. Before describing the operation, I cannot do better, perhaps, than quote from Mr. Syme's work respecting the instruments and appliances required. He says:—"Instead of a complicated machine for distending the invaginated integument, I employed a piece of bougie, or gutta percha, to one end of which was attached a strong double thread. The plug, thus prepared and smeared with cantharides ointment, was drawn into its place by the threads, which, by means of a curved needle, guided on the fingers fairly within the ring, were passed, at the distance of rather more than an inch from each other, through all the textures to the surface, where they were tied firmly together on a piece of bougie, to prevent undue pressure on the skin." The lithograph (Plate II., Fig. 1.) correctly shows the portions of bougie arranged for use. The one with the cord attached, I may remark, is easily prepared by drilling a small hole in its top, and drawing the double thread through, when it can be made fast, without fear of giving way, by tying to it a little piece of paper or linen, which is drawn with the knot tightly into the hollow bougie. The strings should be made of stout hemp or silk, and about twelve inches in length. I used, on



Wm. Porter

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the occasion, a long needle, with a flat sharp point, slightly curved, like those employed in making *post mortem* examinations; though I recommend "Liston's needle," fixed in a handle, as much more manageable.

Operation.—May 27th.—The patient, having had his bowels well freed by castor oil, taken the night previously, and his bladder emptied a few minutes before, was placed in the recumbent position on a table, with his legs hanging over, his feet supported, his shoulders slightly raised, and the right thigh flexed a little. Standing between his legs, I pushed up, with the fore-finger of my left hand, a large plug of scrotal integument into the external abdominal ring; and, feeling fairly within its sides, I took the needle with one of the threads attached, and, guiding it along the finger so placed, I transfixed the external pillar and abdominal parietes. Then, taking the thread from the needle, an assistant threaded it with the second cord, when I passed it through the internal pillar, and made its point appear about an inch and one eighth internal to the first aperture. Having then withdrawn the finger, I pulled the portion of bougie, well smeared with cantharides ointment, by means of the two strings, into the situation previously occupied by my finger, invaginating the structures as it assumed its place; and, lastly, I tied tightly the two threads across the second piece of bougie, to prevent any injury to the skin by pressure. The patient suffered scarcely any pain, wincing merely a little at each puncture of the needle. He was placed in bed after the operation, with the right thigh elevated slightly on a pillow, a small pledget of wet lint laid over the site of the ring, and a full opiate administered.

May 28th.—Had slept well; in no pain; a faint redness visible about the needle-punctures.

May 29th.—Rested easily; free from pain; and no tenderness whatever on pressure in the abdomen. He says that when he coughs he feels, to use his own phrase, "quite tight below." It would be tedious to give the details of this case from day to day. It will suffice to say that he went on as favourably as I could wish in every respect, and never had a bad symptom. I removed the bougie on the 7th June, and found that the punctures were slightly ulcerated near the threads, with a blush of redness about them. The site of the external abdominal ring presented a round swelling, the size of a large nut, and was very hard to the touch. This

appeared to be formed by the invaginated structures and lymph, thrown out around the parts. The man coughed forcibly without in the least displacing the plug of skin, which was now firmly lodged in its new position—while there was some discharge from the excoriated surface inside the inverted integument. I then laid a compress of lint over the part, and applied a spica bandage. He was thus kept confined to bed until the 20th June, when I allowed him to walk about the ward with the bandage on. June 22nd I tested the result of the operation by making him cough violently and jump from a chair to the ground several times; but notwithstanding this exertion not the least protrusion occurred, and the ring appeared permanently sealed up. I put a truss on him with a very light spring, and permitted him to leave the hospital on the 25th June—desiring him to wear it during the day, to avoid any great straining or exertion as much as possible, and to let me see him occasionally. I saw him very recently; and the disease is, to all appearance, cured. He is able to follow his trade with comfort, and feels the part as strong and unresisting as any other portion of the walls of the abdomen.

I have performed Wutzer's operation for the cure of hernia three times, and have seen Wood's procedure done twice, and, as far as my opinion goes, must give the preference to this of Mr. Syme. I cannot conclude better than by repeating the three advantages it possesses, as stated by that able surgeon:—"1st. That it may be executed by means which are in the possession of every surgeon, instead of the complicated, expensive, and not easily manageable apparatus, hitherto deemed indispensable. 2nd. That it may be accomplished with much more certainty through the secure guidance of a finger, than by trusting to a piece of wood, for gaining admission within the tendinous ring. 3rd. That the two threads, co-operating in their effect, render the chance of adhesion between the textures much greater than when it is attempted by the mere puncture of a needle."

III.—*A new Mode of arresting Venous Hemorrhage after Amputation.*

In amputations, when the circulation has been controlled by pressure with the finger of an assistant, or by some of the more modern tourniquets, such as Signoroni's, Skey's, or that of Salt, which compress chiefly the main vessels, it is not by any means uncommon for the operator to be annoyed by venous hemorrhage. This can be explained by the fact that, the smaller arterial branches

arising above the site of pressure, carry a considerable quantity of blood to the limb below the point compressed; and the blood is prone to pass from the veins accompanying those arteries into the lower part of the larger ones, and flow from their divided mouths. Generally speaking this subsides on placing the stump in an elevated position, or by pouring a stream of cold water over it; but, on the other hand, I have frequently seen a surgeon, after all the arteries had been carefully deligated, obliged to keep the cut surface exposed to the air for a long time, with the point of his finger fixed on a vein, before the flow of blood could be checked. Again, I have witnessed such bleeding arrested only by placing a pledget of lint with a string attached, for its removal, on the vessel's mouth. This, independently of retarding, to some extent, the healing process, caused a large amount of suffering on its withdrawal some hours subsequent to the operation; and may also be objected to on the ground that it keeps a supply of pus, putrid blood, or serosity, in constant contact with the orifice, for absorption. Surgeons in this country are not favourable to the practice of ligaturing a vein, although having the sanction of such authorities as Hey, Desault, and Hennen. The dangerous, and sometimes fatal, phlebitis following such procedure, has given us a wholesome dread of tying, or, in any way inflicting injury on these vessels. Again, I should much fear that placing a ligature round both vein and artery—as, for example, the femoral vein and artery—(Desault) would prevent the cord having the desired effect on the latter, as the vein must hinder it from dividing the internal and middle coats of part of the tube, and thus render the possibility of secondary hemorrhage to be apprehended. It occurred to me that the trouble might be got rid of by the simple contrivance of temporarily grasping the mouth of the vein within the jaws of a very small Dieffenbach's artery forceps, having connected with it a string to take it away when all bleeding had ceased. Its pressure effectually controls the flow of blood; its bulk forms no obstacle to bringing the parts into close approximation; and it can be removed with the greatest ease, almost, indeed, with the same facility that we draw away a ligature. At my request, my colleague, Mr. Collis, lately tested the plan with the most marked advantages, in a case of amputation of the thigh, in which bleeding from the femoral vein proved troublesome. My most sanguine expectations were realized by its action, as it instantly sealed the vessel, and so guarded against further hemorrhage and purulent absorption. It inflicted no injury; and,

in the case above-mentioned, it was pulled away in forty-eight hours without causing any pain to the patient. I have added a lithograph (Plate II., Fig. 2) from the hands of Mr. Forster, which faithfully represents the instrument; and also its mode of application.

IV.—*Extraction of a Hair-pin from the Urinary Bladder.*

Many interesting cases of removal of hair-pins from the bladder of females, have been from time to time recorded, accompanied with practical hints for the mode of relieving the sufferers from those foreign bodies. Among the most remarkable may be mentioned those which occurred in the practice of Mr. Syme, Mr. Hilton, and Dr. Tabuteau. The following remarks will, I trust, be read with interest, as pointing out an easy and efficient method, and as illustrating a fact already known, viz., that, the urethra of the female is capable of being dilated to a very great extent, without subsequent injury to the canal.

J. N., aged 20, unmarried, admitted into the Meath Hospital, March 24th, 1861, stated that she had, five days previously, pushed the rounded extremity of a hair-pin up the urethra, and, as it slipped from her fingers, she was unable to withdraw it again. She did not suffer much prior to her admission, merely feeling a slight smarting after passing water. On the following morning I introduced a silver female catheter into the bladder, and drew off about two and a-half ounces of turbid urine. Previous to, and after emptying the viscus, I could distinctly feel the instrument strike against a hard body. I immediately withdrew the catheter and having had her placed under the full influence of chloroform, and put in the position for lithotomy, passed in a slightly curved narrow-bladed forceps, but without effect. I then used a long probe hooked at one end, and sought to entangle it in the bent part of the pin, but in this also I was disappointed. The pin could be felt lying across the neck of the bladder, the points being directed to the right side, but I was unable by any manœuvre to dislodge it. I then decided upon dilating the canal, and on the 26th March, placed a tent of prepared sponge, about two inches in length, in the urethra, and desired the resident pupil to allow it to remain there until the first demand to pass water, and to replace it with another fresh one during the day, after each act of micturition. This plan was steadily persevered in for two days; but on the morning of the 29th March, she refused to permit the introduction of another sponge,

as she was suffering great pain in the region of the bladder, had frequent desire to empty it, and tenesmus. The urine was opaque, and tinged with blood, and I ordered a warm bath, an opiate enema, and the following mixture:—Carbonate of potash, one drachm; tincture of hyoscyamus, two drachms; syrup of poppies, three drachms; and camphor mixture to eight ounces. Two table-spoonfuls to be taken every second hour.

I directed that the tent should not be re-introduced until evening, and, not even then, unless the pain had been relieved. The patient felt so comfortable towards night that the sponge was again applied, and remained five hours in its position.

30th March, I found, on examination, that I could without much difficulty gradually introduce the index finger of my left hand fairly into the bladder. By this means I was enabled to touch the hair-pin very palpably; and, having done so, tried to disengage it. In this I was successful, and brought it on so as to feel one of the points. I now guided a narrow-bladed forceps along my fingers into the bladder, and, after the lapse of a few moments, seized it. The second point was easily found; and fixing it firmly against the top of my finger in the viscus, I withdrew the hair-pin thus grasped. It was considerably coated with phosphatic deposit, although it was such a short time in the bladder, showing how very quickly any foreign substance affords a nucleus for the formation of a calculus. The girl was now placed in bed, and ordered an opiate draught, resulting in a tranquil day, when she had perfect control over the act of micturition. She left the hospital five days afterwards quite well, maintaining complete command over the action of the bladder.

Numerous excellent methods have been used for removing hair-pins from the situation indicated, and ingenious instruments have been invented for the purpose; but I consider they are not requisite, as after a gradual but free dilatation, in the manner described, sufficient access is found for the finger (by which you can easily feel what you are doing) and a pair of forceps is the only instrument, in my opinion, necessary. In Mr. Hilton's case, reported in the *Lancet* of February 28th, 1863, he dilated the urethra by passing in his little finger, and subsequently the fore finger, and withdrew the pin by means of a blunt hook. He also speaks of an "eyed instrument" to slip over one of the points, if it presents itself, and thus glide to the curved part. I cannot, however, conceive this manœuvre easier than seizing the prong with a forceps, hitching the second extremity on the top of the finger in the bladder, and

withdrawing all together. I am of opinion that such rapid distension of the passage is not prudent, and I consider it likely to be followed by want of control over the organ for a longer or shorter period. Mr. Syme speaks highly of a combination of dilatation and cutting for obtaining access to the bladder; and in his case produced the former effect by bougies, and the latter by a very slight incision of its neck, by means of a narrow straight bistoury. He then removed the foreign body with a hook. He acknowledges that dilatation "if carried beyond a certain degree, is apt to produce that suppurative inflammation, which in this situation so surely proves fatal." I agree entirely with this statement, and hold that the hasty enlargement (by which I understand the canal being dilated *immediately* before the extraction of any foreign substance) is far more likely to be followed by a want of power at the neck of the viscus, or by the dangerous inflammation alluded to. The late Sir B. Brodie was also in favour of *gradual* dilatation, when it is required to enlarge the female urethra; and, with respect to the mode of doing so with the sponge tent, recommends that it should be "made by compressing a piece of wet sponge between two pieces of board, in a vice, or under a very heavy weight, and not that prepared by wax." Those I used were prepared in the latter manner, and I cannot imagine why he objected to it, as they were most efficient in every respect.

ART. XI.—*Case of Enormous Deep-seated Tumour of the Face and Neck, Successfully Removed by Operation.* By JAMES SPENCE, F.R.C.S.; President Medico-Chirurgical Society, Edinburgh; Senior Surgeon and Lecturer on Clinical Surgery, Royal Infirmary; and Lecturer on Surgery, at Surgeons' Hall, Edinburgh.

In the beginning of October, 1862, I received a letter from Dr. Phipps, of Manchester, in reference to the patient whose case I am about to narrate. He gave me the general history of her case; and enclosed three photographic portraits, exhibiting a tumour from different points of view; and requested me to say whether I thought there was any possibility of removing it, as she was willing to run any risk to have it removed. The history of her case was as follows:—

Fig 1



MR SPENCE'S CASE OF TUMOUR

Engraved from a Photograph by
J. W. Earle, M.D.

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"Mrs. Jepson, aged thirty-four, of a healthy appearance, states that, when eighteen years old she noticed what she calls a 'waxen kernel,' growing under the skin over the mastoid process of the right side, and immediately under the lobule of the ear. For two years it showed no tendency to grow larger; but afterwards it increased slowly; and she applied for relief to several medical men. In spite of the use of iodine, externally and internally, it continued to grow. She was married when she was twenty-one years of age; and states that during her pregnancies the tumour appeared to increase more rapidly than at other times. Four years after her marriage the growth had reached the size of a large hen's egg; and she was taken by her medical attendant to the Manchester Infirmary, to obtain the advice of the surgeons of that institution. They told her that the tumour might be removed; but that she must take the whole risk of the operation on herself. Her own medical attendant seems to have dissuaded her from having anything done. Since then the tumour has continued gradually enlarging; but of late years has shown a marked tendency to more rapid increase."

I was informed that the patient, harassed by the weight and deformity of the tumour, had recently applied to a surgeon at Manchester to have it removed; but he declined interfering; and dissuaded her from submitting to any operation. I wrote, in reply to Dr. Phipps, that though I could not decide without personally examining the patient, I was inclined, from the history he gave of the growth, and his account of its general relations, to think it might be removed; and that I would arrange for her reception under my care if she came to Edinburgh, as contemplated. She was admitted into my wards in the Royal Infirmary, on the 11th November, 1862.

Appearances on Admission.—The patient is a somewhat pale, but not cachectic, looking woman. There is an enormous tumour, as large as her head, projecting from the right side of her neck. Its boundaries are the following:—Beginning about one inch from the second cervical vertebra, it passes downwards to within an inch and a-half of the clavicle; then sweeps obliquely to the middle line of the neck, which it reaches near the cricoid cartilage. It then passes upwards by the side of the chin, close by the angle of the mouth—which is not distorted; and round by the outer angle of the orbit, and through the lower part of the temporal region, and

thence to the spinal column, on a level with the meatus auditorius externus and apex of the mastoid process. The lobule of the ear is very considerably stretched. The surface of the tumour is irregular, presenting a lobulated appearance; the most prominent part is that which projects forwards from the face, and where there is a feeling of fluctuation; the rest of it is solid. The veins over the surface are not markedly distended. The anterior portion of the tumour is more movable than the posterior. There is no glandular enlargement, either in the subclavian space or on the left side of the neck. Respiration and deglutition are not in the least interfered with.

November 18th.—Since the 16th instant she has been very sick, with occasional vomiting; but to-day she feels much better. The sickness is almost entirely gone; but the fauces are inflamed. Pulse 92.

November 21st.—The throat is still inflamed; otherwise she feels better.

Operation.—On the 5th of December, Mrs. Jepson having quite recovered from the feverish attack from which she suffered after her admission into the hospital, I proceeded to remove the tumour. The patient having been placed recumbent, and brought under the influence of chloroform—her head and shoulders supported with pillows, and her face turned towards the left side, I commenced the operation by making two slightly curved incisions, extending from the lobe of the ear to the sternal attachment of the sternomastoid muscle, so as to mark out an elliptical portion of skin, about three and a-half inches broad at its widest part, over the middle and prominent part of the tumour—the anterior incision corresponding nearly to the internal edge of the mastoid muscle. I next made an incision backwards and slightly downwards from the middle of the posterior longitudinal incision, so as to extend beyond the posterior limit of the tumour; and lastly, an incision from a point external to the angle of the mouth, was carried obliquely downwards and outwards, so as to fall upon the centre of the anterior longitudinal incision. The four large flaps of skin and platysma myoides thus marked out were then dissected and reflected off the tumour, commencing with the posterior—the external jugular vein being tied with two ligatures, and divided between them. When the whole surface of the enormous growth was thus exposed—except where the elliptical portion of skin remained—the

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MR SPENCER'S CASE OF TUMOR.

1. \mathcal{L}_1 is the set of all \mathcal{L}_1 functions.

Fig. 1.



M^r SPENCE'S CASE OF TUMOUR

Fig. 1. by J. Smith, Esq. and R. Gregory, Esq.
J. W. Smith, Manchester.

sterno-mastoid was seen to be so attached to the tumour about its middle, that I divided it above and below that part. I then relieved the anterior margins of the cervical portion by a careful dissection, keeping the edge of the knife towards the tumour until I was fairly beyond the line of the great vessels. My dissection was continued from the lower and posterior part till the phrenic nerve was seen clearly, and the upper and posterior portion, which had been previously so far relieved, was then rapidly detached from its deep connexions, and the whole of the cervical mass of the tumour was free. The detachment of the facial and parotid portion still remained to be accomplished; and this required great care, both because that part of the tumour seemed more cystic, and also because, as I expected, it was deeply connected behind the ramus of the jaw. On dissecting it from before, downwards and backwards, I found it attached to the fascial covering of the posterior belly of the digastric muscle, so that I had to dissect the muscular fibres. Above, it dipped deeply between the mastoid process and the jaw; but, partly with the finger, and careful dissection with the knife, it was detached pretty easily, till I arrived at the attachment under the ear over the mastoid process. Here it was firmly adherent; and the weight of the tumour caused a slight tear of its substance; but by having the tumour supported I dissected this attachment carefully, so as to remove the whole tumour entire. A large vessel entered it at this point, which was readily secured. During the operation some arteries which bled were tied as cut; and also some large veins, previous to their division. The chief bleeding during the operation was venous, from the divided veins passing from the tumour; but the whole amount of blood lost certainly did not amount to eight ounces. The wound resulting from this dissection, when the tumour was removed, extended from the zygoma to the clavicle and sterno-clavicular articulation. In the facial portion, the parotid gland seemed either atrophied or so displaced, that nothing was to be seen of it in the deep space between the jaw and the mastoid process. The portio-dura—the cervico-facial portion of which had been unavoidably cut—was seen crossing to the face; and the external carotid could be felt pulsating; and the digastric was seen dissected here. In the cervical portion of the wound, the great internal jugular, and its tributary veins, and the carotid artery, were exposed for nearly their whole length, and, posteriorly, the phrenic nerve was seen lying on the anterior scalenus. The flaps were brought together by a few points of

suture, and seemed to be rather redundant, notwithstanding the elliptical portion of skin removed. A flat fold of lint was placed lightly over the wound.

During the operation the chloroform caused vomiting. The patient was carried to bed; hot water bottles were applied to the feet, and a brandy enema given.

Dec. 4th.—Slept tolerably well during the night; sickness pretty severe; ordered brandy and ice; pulse 128.

Dec. 5th.—Pulse 130; slept pretty well; has taken a little food; the facial nerve seems slightly affected; she feels very little pain in the wound.

Dec. 6th.—Pulse 96; several stitches removed.

Dec. 8th.—Pulse 98; slept better than she has done since the operation; the lower angle of one of the flaps showing a tendency to inversion, a piece of lint was introduced below it, and the wound dressed with a solution of chloride of soda.

Dec. 9th.—Wound discharging freely; continue dressing; affection of the facial nerve not so marked; pulse 96.

Dec. 10th.—Still improving; had a very refreshing sleep last night; taking her food well; pulse 92.

Dec. 15th.—Wound looking well; dressed with a solution of chloride of soda; taking food well; sleeping well, and not complaining of pain; has been sitting up a little occasionally since last report; pulse 84.

Dec. 17th.—Still improving in every respect; pulse 84.

Dec. 20th.—Wound still discharging freely; appetite good; pulse normal; ligatures came away to-day at dressing.

Dec. 23rd.—Yesterday she became sick, and vomited several times after dinner; sickness continued occasionally during the night; this morning she is not nearly so sick as the day before; the wound presents the appearance of grey phagedæna, with erysipelatous blush on the skin; touched it lightly with nitric acid; tongue whitish; pulse 112.

Dec. 24th.—Sickness entirely gone; the wound rather dusky-looking; the surface touched slightly with nitric acid.

Dec. 25th.—The wound has much the same appearance as it had yesterday; continue treatment; pulse 96.

Jan. 6th.—Since last report she has been improving very satisfactorily; this morning she walked from Ward XX., where she has been lying temporarily, to her old quarters in the private ward; the wound is looking well, and the tongue clean; and the pulse is 88.

M^r SPENCE'S CASE OF TUMOUR

Page 1, Para 1: 24th to 26th Sept 1944
at 1000 hours

Jan. 12th.—Is much improved; sat up for an hour yesterday; the wound is healing rapidly.

Feb. 3rd.—Since last report the patient has gone on improving daily; the wound is now almost entirely healed; and she left the hospital to-day for the Convalescent House.

After remaining for some weeks in the Convalescent House, till the cure was completed, Mrs. Jepson returned to her home at Over-Darwen, Lancashire; and since her return I have heard frequently, both from herself and also from Dr. Phipps, who states that her health is good and her appearance gradually improving; the marks of the cicatrix becoming less evident.

Examination of the tumour after its removal.—The growth was of a very irregular form, but may be described as an irregular ovoid mass, $9\frac{1}{2}$ inches in length, $8\frac{3}{4}$ inches at broadest part; its thickness or projection $7\frac{3}{4}$ inches, and weighing rather more than 7 pounds. It was nodulated on its surface, some of the larger projections looking like cysts, and feeling soft to the touch. The whole growth, however, was composed of solid matter, and presented, on section, the characters of the fibro-cartilaginous form of fibrous tumours. A careful examination of its structure was made by my friend Dr. Haldane, who has favoured me with the following description of it:—

“On section the mass was found to consist of two kinds of material; the most abundant, and that which formed the basis and the greater part of the tumour, was of a glistening appearance, a pale bluish-white colour, and was of firm almost cartilaginous consistence. Mixed with this, and occurring generally in bands, but sometimes in small patches, was a softer and more friable matter, of a pale opaque yellow colour. A few small masses of a glistening yellow appearance, evidently consisting of fat, were scattered through the mass.

“On microscopic examination the firm glistening portion of the tumour was found to consist of a finely fibrillated structure, in which were embedded oval, rounded, or elongated nucleated cells, having all the characters of cartilage cells; these varied in abundance in different parts, being, in some places, as numerous as the cells in true cartilage, in others but sparsely disseminated. The yellowish opaque matter consisted of granular material and small cells, apparently in process of disintegration; they resembled tubercle corpuscles or shrivelled pus cells, but were somewhat

larger; they contained no nucleus, but, in many, one or more granules were seen. The matter, which to the naked eye seemed fatty, was proved to be so on microscopic examination."

Remarks.—The case just detailed seemed to me worthy of notice on account of the great size of the tumour, its important anatomical relations, and the formidable character of the operation required for its removal; but especially as giving encouragement for surgical interference in similar cases of deep-seated cervical tumours, and as indicating certain principles, both in regard to the kind of growths suitable for operation, and the points to be attended to in effecting their removal.

Operations for the removal of large tumours from the neck are always attended with great danger from the proximity of the numerous important structures in that region, and the impossibility of thoroughly commanding the circulation through the great vessels during the operation. Large tumours, arising in the parotid and passing into the cervical region, have been frequently removed when placed superficially to the sterno-mastoid muscle. But some surgical authorities regard cases of tumours developed beneath that muscle as unsuitable for removal by operation; and, in point of fact, few if any cases of complete and successful removal of such tumours are recorded; at least, after some research, I can only find four cases mentioned:—One by Mr. John Bell, in his work on surgery, Vol. III.; two by Professor Warren, of Boston, in his work on tumours; and one incidentally mentioned by Mr. Liston in his *Practical Surgery*. Of the three first mentioned only are the details given, and in none of them was the whole tumour removed. Mr. Bell, who describes the operation in his usual graphic style, confesses that he left some small roots of the tumour attached to the transverse processes of the vertebræ for fear of injuring the phrenic nerve. The tumour rapidly recurred and destroyed the patient. In one of Mr. Warren's cases only portions of the growth could be removed, as it involved all the textures intimately; and, after ligature of both the carotid artery and internal jugular vein, a large mass was left, being connected with, and projecting into the pharynx. In his second case, Professor Warren, after clearing the surface of the tumour, rather than divide the sterno-mastoid for fear of injuring the spinal accessory, "the consequences of which last I was unacquainted with," adopted the alternative of cleaving the mass perpendicularly in its long axis, so as to remove the two

halves from under the muscle; and here, again, he tied and divided both the carotid and internal jugular; but some parts of the tumour in front of the vertebræ were left, the actual cautery being applied to them. The details of the case subsequent to the operation are meagre; very grave symptoms appear to have followed immediately, but the patient seems to have rallied; and, though we are led to infer that he did recover, nothing is said of the ultimate result, or whether the tumour was reproduced or not. The only notice of Mr. Liston's case I can find is contained in *Practical Surgery*, Chap. V., "On the Injuries and Diseases of Muscles and Tendons." He says:—"I had occasion to remove the sterno-mastoid muscle of one side, involved in a sarcomatous tumour from its origin to its insertion—a growth to which the most fastidious critic will not refuse the term sarcoma; though, in all probability, the muscular fibres may have been involved secondarily. The tumour was, so far, limited by a cellular sheath, yet the dissection was difficult and extensive. The patient made a good recovery, and no mal-position of the head followed."*

So far as I could judge from this brief account of Mr. Liston's case, it seemed a growth developed in the substance of the mastoid, surrounded by the fascial sheath of the muscle; and, if so, differing very much from the enormous and irregular tumour I had to deal with. The cases recorded by Bell and Warren, though not successful in complete removal of the tumours, possessed this element of encouragement, that, whilst the failure depended on the character of the growth being unsuitable for any operation, they showed how much could be effected even under unfavourable circumstances, and so led me to infer that if the character of the growth were suitable, the difficulty of the operation need not be an obstacle to its performance.

In determining the propriety of operative interference in Mrs. Jepson's case, it seemed to me that the points principally to be considered were:—1st. The character of the tumour; whether simple or malignant? 2nd. The probable result, if the growth

* Since writing the above I have found in one of the Journals of the Royal Infirmary for 1834, the report of a case of large cervical tumour, operated on by Mr. Liston. The tumour, which occupied nearly the same position as the cervical portion of my patient's tumour, had grown rapidly in about two years. In this case Mr. Liston found it impossible to remove the whole growth by the knife, and the part near the vertebræ was strangulated by ligatures passed through its base. The patient recovered at the time.—J. S.

were left to itself? 3rd. How far its enormous size, anatomical relations, and possible connexions with vitally important parts might endanger life, or prevent its complete removal?

Correct diagnosis as to the character of the growth is most important in deciding on the question of operation in all cases of tumour, as involving the probability of future immunity from the recurrence of the disease. But in the case of large tumours in the vicinity of important organs, it is also important as to the question of immediate danger to life in the operation. In my surgical lectures I have always dwelt upon the limitation of simple, as compared with malignant tumours, as a principle of great practical value. In simple growths, important organs—such as great vessels and nerves—may be pressed upon, pushed aside, or even surrounded by the tumour or its lobules; but the cellular sheaths are not destroyed; and even if the growth has formed adhesions to the sheath, the vessels themselves are free; whereas, in malignant growths we find no such limitation. On the contrary, the disease often invades all the textures, destroying the cellular sheaths, and involving the vessels and nerves themselves; and even when the mass of such a tumour is enclosed in a dense cyst, and apparently movable, it is not truly limited; but the narrow prolongations of the diseased structure dip deeply amongst the textures, and form such connexions as to defy any certainty of complete removal, as happened in the cases recorded by J. Bell and Warren, already referred to.

In the case of Mrs. Jepson, the originally slow progress of the growth, the comparatively unimpaired state of her general health, together with the appearance of the tumour and the absence of that anxious expression of countenance which marks most cases of malignant cachexy, were all conditions indicative of the simple character of the growth. Whilst the more rapid increase latterly noticed, though a reason for interference, was only what we find in most tumours, however benign, and depends on the enlargement of their vessels, and consequent increase of nutritive supply. So far, then, as the character of the growth was concerned, there was everything in favour of operation, as the tumour was neither likely to involve the neighbouring textures nor liable to recur after removal.

The second consideration was, the probable progress of the tumour if left to itself? As yet neither respiration, deglutition, nor any vital function, had been affected by the growth; but then it had, of late, begun to increase more rapidly in bulk, and over the

most prominent part the skin had a dusky red appearance, which showed a tendency to ulceration; and when that once commences, even in simple tumours, we know how rapidly they fungate, slough, and bleed—degenerating locally, and exhausting the patient by discharge and pain—and that their removal then becomes much more difficult and dangerous. Besides, the nutrition of the growth was evidently carried on at the expense of the patient's general health; for, though not cachectic, she had become pale, and felt more feeble than formerly; whilst the enormous bulk and weight, together with the increasing deformity, rendered her almost unfit for any duty, and gave rise to great mental depression, so that she was most anxious to have the tumour removed at all hazards. The consideration of these first two questions resulted in a decision favourable to operative interference. It now remained to consider how far the size and connexions of the tumour admitted of removal by operation without immediate risk to the patient's life; and to plan the procedure by which this could be most readily and safely effected. The great bulk of a tumour, though always a source of risk from the extensive incisions requisite for its removal, the amount of surface exposed, and the proportional hemorrhage, venous and arterial, does not necessarily render the operation more difficult; on the contrary, the very size gives a power of leverage which often facilitates the dissection. But when the mass is so situated as to present a large surface it may be adherent to, or in close connexion with vitally important parts, then the operation required for its removal becomes most formidable. These elements of difficulty and danger were present to their fullest extent in my patient's case; for, besides the enormous bulk of the tumour, it was developed beneath the sterno-mastoid, and its deep surface was necessarily in the closest relation with the great vessels and important nerves in the cervical region, from the lower jaw to within an inch of the sternum, and stretching backwards to the margin of the trapezius muscle; whilst the facial portion felt fixed in the parotid region, as if deeply nitched behind the ramus of the jaw; and it could be felt projecting towards the fauces within the mouth. The bulk, form, and position of the tumour rendered it impossible to ascertain positively whether or not it adhered at any point to the sheath of the vessels; and the apparent mobility of a large cervical growth can never altogether be depended on; for, even if it involve or be adherent to the vessels or their sheath, these, being loosely connected, move with the tumour on the more fixed parts. But in

the face of these risks I felt warranted to operate, on the following grounds:—First, as I have already said, the simple character of the tumour made me feel secure that, though it might displace, upon, or even adhere to the sheath of the great vessels and not involve them. Secondly, the absence of any engorgement of the veins of the neck on either side, or of any marked alteration in the arterial supply of the right side of the neck, made me pretty sure that neither the internal jugular nor the common carotid could be very closely or extensively involved. While the functions of respiration and deglutition being unimpaired, and no symptom of laryngeal irritation existing, rendered it equally probable that neither the vagus nerve, its branches, nor the phrenic, were yet implicated.

Having thus satisfied myself that the tumour might be removed by an operation properly planned, and carefully and deliberately executed, I proceeded to determine the method by which it could be most readily and safely accomplished. The dangers to be apprehended were:—Hemorrhage from the arteries supplying the tumour, or, more likely, from the great veins returning the blood from it; the risk of air entering any of these large veins if divided; the risk of injury to the vagus or phrenic nerves; and the probability of meeting difficulty from adhesion of parts in the parotid region, where the tumour felt fixed; lastly, exhaustion of the patient from the necessarily tedious dissection and large exposed surface. To obviate these dangers as far as possible I determined to expose freely the whole surface of the tumour; to clear its external surface, and, in doing this, to expose the anterior margin of the sternomastoid muscle, at the lower part of neck, so as to be able, if necessary, to compress the carotid; next, to divide the sternomastoid above and below, so as to leave the part adherent to the tumour growth; to tie the external jugular with two ligatures, and divide it between them; and to pursue the same course in regard to the larger veins passing towards the jugular or root of the neck, and to secure the larger arterial branches as divided. Ligatures on the lower part of the common carotid, as a preliminary, with a view of diminishing loss of blood—which has been advised and adopted in the removal of tumours from the neck and face—was rejected as worse than useless, as not only incurring unnecessary risk to the patient, but as likely to lead to danger by inducing a false security in the operator, as its ligature could not control retrograde hemorrhage from the free anastomosis superiorly; and

the free incision along the sterno-mastoid enables the assistant to control the carotid trunk quite as effectually, should it be necessary. Besides, in such a dissection, wound of the great internal jugular vein is much more likely to occur than injury of the carotid; and the best means of avoiding either is to disturb the natural relations of the vessels as little as possible, and to dissect with the edge of the knife directed towards the deep surface of the tumour, whilst the assistant insinuates his fingers in the track of the dissection, so as to protect the vessels. I decided, after clearing the tumour from the great vessels, to dissect the rest of the cervical portion from below upwards, so as to avoid injury to the phrenic nerve; and then to proceed with the dissection of the facial portion from above downwards and backwards, so as to leave the part which felt most fixed in the deep parotid region, and where I expected the largest vessels to enter the tumour, to the last. This plan I carried out, as detailed in the description of the operation, with the able assistance of my colleagues—Drs. Gillespie and Watson; and I had the satisfaction of removing entirely this enormous tumour, and so relieving my patient from what she and her friends had long regarded as a hopeless disease.

In a letter I have received from Mrs. Jepson, dated October 8th, 1863, she says:—"I am happy to inform you that I am in good health; the scars do not look bad; they are perfectly healed up, and gradually appear less."

ART. XII.—*Cases in Midwifery, from Dispensary and Private Practice.* By T. PUREFOY, M.D., &c.

CASE I.—*Tedious Labour; Convulsions after Delivery.*—E. S., a healthy servant-maid; first labour, January 12th. Slight pains commenced on the 10th ultimo, accompanied by a slow discharge of the liquor amnii, which now recur after long intervals; are weak and inefficient in character, chiefly affecting the lower portion of the back. The pulse and general temperature of the body are natural, but the bowels are obstinately confined. The os uteri is dilated to the size of a shilling—its edges thin, sharp, and unyielding, so that the pressure of the head during a pain occasions severe suffering. The patient being wearied, sleepless, and anxious as to the result of her illness, a purgative was administered, followed, after some time, by a sedative containing twenty-five minims of acetum opii. Two

hours' sleep followed; labour now progressed much more favourably, so that, in six hours after visit the dilatation of the os uteri was completed. Matters progressed favourably until the head rested upon the perineum; but at this period of the labour the pains lost much of their expulsive character, and only returned after long intervals, during which the patient slept profoundly; yet intellect was perfect; and on the return of each pain she complained much, but made little effort to aid the uterine contractions, soon falling into deep sleep upon the subsidence of pain. The head, having rested for about two hours upon the perineum, was finally expelled by the natural efforts; the whole duration of labour having been about twelve hours, and once only—half-an-hour before delivery—was headache complained of, whilst the pulse continued at ninety, and of moderate fullness.

Immediately upon the expulsion of the infant, and before its separation from the mother, a violent convulsive fit occurred of five minutes' continuance.

Upon the removal of the infant free hemorrhage set in, before the expulsion of the placenta, but was fortunately arrested upon this organ being expelled, and cold, with external pressure, diligently employed. There was no return of the convulsions; consciousness was restored after the lapse of an hour. The countenance was pale and haggard; pulse continued, for two hours, small, frequent, and feeble; the patient was drowsy, and indisposed to converse, but did not again complain of headache or other bad symptom. Made a good recovery, requiring no other medical treatment than the careful use of aperients to regulate her bowels.

CASE II.—*Placenta Prævia, Partial.*—M. C., aged thirty-two, visited 23rd February; found suffering under a severe attack of hemorrhage, which had recurred three times during the past six weeks, the discharge, according to her statement, being from the rectum. She believes herself to be about six months pregnant. An examination proved that the hemorrhage was from the uterus, per vaginam, and that slight labour pains were present, some portion of the liquor amnii having already escaped. The uterus was high up; os not to be reached unless coagula were detached, a proceeding which it was considered right to avoid for the present. The plug was employed, thirty drops tincture of opium given, and absolute rest enjoined. After three hours the labour pains returned vigorously; a small portion of the placenta descended with the child's

head to the os externum, and shortly afterwards the child and placenta were expelled together, without the occurrence of flooding or any other unfavourable complication. The infant was full-grown. Recovery good.

CASE III.—*Hemorrhage; Post Partum.*—Mrs. R.; sanguine and nervous temperament; fifth confinement; suffers habitually under dyspnea, induced by a very large “goitre” of several years’ standing; general health delicate; lower limbs anasarcous. Her labour commenced on the 23rd of June, at 9 p.m., and was completed in a period of four hours, the pains having been powerful and effective during this time, so that the placenta came away in twenty minutes after the birth of the child. A few minutes after the completion of labour, the uterine contractions became irregular, although, from the birth of the child, the uterus had been carefully and steadily compressed by the hand, in order so secure its permanent contraction. Notwithstanding that every precautionary measure, as pressure, cold applications, ergot, and the free admission of fresh air were diligently employed, efficient and permanent contractions were not secured, as the uterus became soft and enlarged upon the cessation of every pain. For some time excessive discharge was prevented; but, after the lapse of an hour from the expulsion of the placenta, an attack of sickness and vomiting was followed by the discharge of a considerable quantity of coagula, followed by pallor, faintishness, and feeble pulse. The uterus now became reduced to its normal size, under a continuance of the means already stated, when a pad and roller were carefully applied, and the patient anxiously watched.

Unfortunately, the pain, irregular contraction, and relaxation again set in, accompanied by free discharge of coagula. The roller was at once removed, the contraction of the womb secured by manual pressure, ergot given, and the cold applications again resorted to; but it was not until a period of three hours had elapsed that efficient and permanent uterine contraction could be secured. For several days this lady suffered from a recurrence of severe after-pains, accompanied by the discharge of coagula per vaginam.

CASE IV.—*Retained Placenta; Hemorrhage.*—January 13, I was hastily called upon to attend a strong, healthy, young woman, supposed, by the nurse in attendance, to be dying. She had given birth to a female infant about an hour before I had entered her

bed-room. The placenta was retained, and most profuse hemorrhage came on, inducing a state of sudden and extreme exhaustion. The surface of the body generally was cold and clammy; pulse scarcely to be felt, and the voice reduced to a whisper; uterus much distended, and hard, reaching up to the navel.

As no time was to be lost in trying to arrest at once the flow of blood, the hand was gently, and with ease, passed into the uterus, through the coagula which filled the vagina, when the uterus was found filled with clots, except where occupied by the placenta, which was firmly adherent, in a great extent, to the inner surface of the womb. The placenta having been detached, and brought towards the os uteri, the hand was retained above it for a brief interval, when the exhausted uterus, thus gently stimulated, and in great measure emptied of coagula, renewed its contractile efforts, and expelled the hand, *preceded* by the placenta. Firm pressure of the hand was now diligently kept up over the fundus uteri; cold applied to the vulva and hips; warm flannels wrapped round the feet and legs; a couple of doses of "the ammoniated tincture of ergot"^a given; fresh air freely admitted; and in the course of an hour all immediate danger was past. The patient, progressing favourably from this period, made a good recovery.

CASE V.—*Placenta Morbidly Adherent; Hemorrhage; Death.*—Mrs. G., a farmer's wife, healthy, and mother of a large family, was attended by a midwife during a natural and rather quick labour. The placenta was not expelled, and in a very little time the poor woman became faint from profuse hemorrhage. I visited the patient in about two hours after the birth of her child, and found her in "articulo mortis." She expired without a struggle a few minutes after I had entered her room.

A *post mortem* examination showed that there had been partial separation of the placenta, accompanied by internal hemorrhage. A thin dark coagulum showed the extent to which the placenta had been separated, whilst the remaining portion was morbidly adherent.

CASE VI.—*Difficult Labour; Failure of the Vectis; Perforation; Vesico-Vaginal Fistula.*—A labourer's wife, of short, set figure, aged thirty-five, was taken ill of her second labour on the 14th

^a The preparation of ergot, which I use in labour cases, is a saturated solution, or aromatic tincture, of ergot, in pure aromatic spirit of ammonia. Dose, half a drachm to a drachm, alone, in cold water, or added to the usual infusion of ergot.

September. I learned at visit that her medical attendant found it necessary to deliver her first child with the forceps, and was not a little distressed at finding, upon a careful manual examination, that there existed considerable deformity of the pelvis, with projection of the sacrum forwards, so as to diminish its capacity very much. The head was yet so high, and the difficulty of examining so great, that the exact nature of the presentation could not be decided. As the pains were languid and teasing, and the membranes to be felt in the passage, they were ruptured, in order to excite increased uterine action. The uterus now acted regularly for some time, but the pains were unavailing and fruitless, whilst the head remained stationary during a period of five or six hours. The head remained above the brim of the pelvis, and no effort to alter and improve its position succeeded, as it could merely be touched by the points of the fingers. The vectis also failed to aid the progress of labour; and, as it was quite evident the infant could not be expelled by the natural efforts, it was decided, in consultation, to deliver by the crotchet. The operation was tedious and painful; and, although great care was taken to reduce the size of the head as much as possible, it required an unusual amount of extractive force to withdraw the head from its position. The placenta was expelled in forty minutes after the delivery of the child, and quickly followed by alarming hemorrhage, which fortunately ceased under the usual mode of treatment. It was found, upon a careful examination, that the perforator entered just above the right ear, thus accounting for the great difficulty experienced in bringing down the head. No untoward symptoms existed before, or for some days after, the delivery; but, unhappily, on the third day vaginitis set in, and caused sloughing, with a fistulous communication between the urethra and vagina. I subsequently heard, from her nurse, that this poor woman was confined a third time, when a small female infant was expelled by the natural efforts.

CASE VII.—*Hemorrhage, Post Partum.*—A small, delicate woman, aged thirty-four, was confined of her third child on the 16th November, at her full time. The labour was natural, occupying an interval of three hours of regular uterine action, unpreceded by any tedious or wearisome premonitory symptoms. During labour the patient was depressed and timid, whilst the pulse was small and compressible. Every possible care was taken to promote and secure efficient uterine contraction after the delivery, and pressure with

the hand over the fundus uteri continued for half an hour before applying the roller. However, just as this was done, the patient had a rigor, with a sense of chilliness and coldness of the extremities; followed by flushed face, full and frequent pulse, and a state of very decided reaction. Active hemorrhage immediately set in, when the roller was promptly removed, the uterus found soft, enlarged, and free from pain. Firm pressure, aided by the ammoniated tincture of ergot, with the usual adjuvantia, soon induced active contraction of the womb, when a large quantity of coagula was expelled; and the uterus, diminished in bulk, sank into the pelvis, leading to a delusive hope that all was well. However, the watchful guardianship of the hand over the uterus was not omitted; and during the lapse of more than an hour this organ was felt distinctly to *relax and contract* alternately under the hand, hemorrhage recurring with each relaxation, and again restrained as firm pressure, cold, &c., &c., served to induce efficient contraction. The roller was not re-applied until *permanent contraction* was established. The patient made a good recovery.

CASE VIII.—*Placenta Retained from Inertia; Hemorrhage.*—Patient of nervous and sanguine temperament; aged thirty-eight; ninth confinement. Labour natural, of about eight hours' duration; the pains during the last two hours having been frequent and very powerful in their influence upon the uterus.

The birth of a living female infant was followed by a most alarming flow of blood, accompanied by cessation of pain and syncope. The infant was promptly separated, firm pressure made over the fundus uteri, and cold freely applied. The hemorrhage was restrained thus, reaction slightly induced, and then the ammoniated ergot given in small doses repeatedly. In the lapse of twenty minutes the placenta was expelled, the hemorrhage so far restrained that the patient was considered free of all immediate danger in about an hour after the birth of her child. During the progress of labour considerable vascular excitement was induced, accompanied by flushing of the face, heat of the surface generally, and great frequency of pulse.

CASE IX.—*Sudden Death during Labour.*—A labourer's wife, aged thirty-six, married eighteen months, suffered from the effects of an abortion at about the third month of pregnancy, but subsequently enjoyed good health.

On the 11th of November, being then at the full period of gestation, slight labour pains came on, so that she was attended through the night by a midwife. She slept little, and complained only of pains in the back and loins for some hours, and then seemed oppressed and anxious, when she stated that she was "oppressed and squeezed about the heart." The breathing now became short, irregular, and embarrassed. At six on the morning of the 12th instant, she hastily called for her husband, expressed a feeling of approaching death, whilst at the same time the extremities became cold, and the whole surface bedewed by cold perspiration. These alarming symptoms became progressively more and more urgent, until the poor patient quietly expired in about half-an-hour from their commencement.

CASE X.—*Precipitate Labour.*—A delicate female, of small stature, was unexpectedly taken in labour, at the full period, whilst sitting upon the night-chair, and without having experienced any suffering like to labour-pains. During a straining effort she felt that something unusual had passed away from her, and immediately called out for assistance. She was quickly removed to bed, when it was found that a small living infant had been expelled from the womb, and was received into the night-chair, the cord having been torn across within a couple of inches of the umbilicus.

Although fifteen or twenty minutes had elapsed before the medical attendant could be procured, yet no hurtful hemorrhage took place from the cord. The mother made a good recovery; and baby progressed very favourably, until, unfortunately, cut off by an attack of pertussis, at the age of six weeks.

Remarks.—A few brief practical observations upon the preceding cases may not be altogether uninteresting or unimportant to the junior members of the profession, who are, perhaps, just entering upon the very arduous and important duties of the accoucheur.

The first case suggests the propriety, nay, even the necessity, of examining the condition of the os uteri, not only "during a pain," but also in the absence of pain, in order to learn correctly what its state may be. This simple rule is of much importance, since in some instances the uterus descends so low during the progress of labour, and becomes so thin and tense, by the pressure of the head from within during a pain, that it becomes very difficult to detect the os uteri until the pain ceases, the head recedes a little, the

uterus relaxes, and the lips of the os thus become developed and distinct to the touch. Indeed, cases will now and again be met with where, under the circumstances stated, upon a hurried or careless examination this condition of the uterus might be mistaken for a presentation of the membranes, in a rigid and unyielding state; perhaps thus inducing the medical attendant to shorten the sufferings of his patient by an attempt "to rupture the supposed membranes." I may add that such an unfortunate occurrence has happened, and has been faithfully recorded for the warning of others.

A question of much practical importance occurs here, as to the predisposing and immediate cause of the convulsions. The previous neglected state of the bowels, possibly a certain amount of plethora of the circulating system generally, inducing congestion in the cerebro-spinal system, were causes calculated to predispose the patient for the convulsive attack which was the immediate result of the act of parturition.

How impressively is the lesson here taught, as to the great importance of paying strict attention to the general health during the period of pregnancy, since, doubtless, the favourable termination of labour is, in every instance, very much dependent upon a previous good state of health.

The condition of the patient at my visit clearly pointed out the necessity for great caution in the use of opium; therefore an active purgative was given as a precautionary measure some time before prescribing the anodyne, which contained only twenty-five drops of the acetum opii. Its effects were decidedly beneficial in procuring refreshing rest and promoting the progress of labour. Yet, truly, opium is a remedy which can never be administered with safety where the most remote tendency to convulsive or apoplectic affections appears during the progress of labour. Here the patient was only six or seven hours in actual labour when the opiate was given, and then only in small quantity. The skin was cool, fever absent, pulse good, and no symptom present which contra-indicated its use, except constipation; and to obviate any danger from this state of the system a full purgative preceded the anodyne. Yet I am ready to admit the *suggestion* that the opiate might have favoured the pre-existing state of congestion, and so increased the liability to convulsions; stating, in reply, that, even with this remote danger in view, the existing symptoms demanded prompt attention, and that there is preponderating evidence afforded by the history of the case in favour of the opinion that, on the whole, the opiate was a fit

remedy and acted favourably. After the administration of the opiate the pains became regular and efficient, whilst the acute sufferings of the patient were much mitigated.

In some very distressing instances of acute sufferings, whilst the pains were frequent, irregular, and ineffectual in promoting labour, I have discovered the existence of local, organic, or functional disease of some important organ, and been led to consider how far this pre-existing disease might injuriously interfere with the normal and healthy condition of the uterine action during labour. Of course I do not here include organic or functional disease, which may have been in existence long previous to pregnancy, as it is well known that women, even in the last stage of consumption, will have strong pains and a favourable confinement. I would merely observe that in many instances where the pains have been irregular, non-expulsive in character, and yet occasioning much suffering, I have frequently found that local, organic, or functional disease existed, and would seem to me to exert an unfavourable influence upon the healthy and regular action of the uterus; but in what way I cannot explain—possibly, through the mysterious influence which we name “sympathetic,” thus depriving the uterus of its full share of nervous agency, and so unfavourably acting upon the progress of labour. At all events, the plain practical deduction from what has been stated is this, that it behoves the intelligent practitioner to exercise all due care and attention in preserving the health of his patient previous to delivery, and diligently to guard against the occurrence of any local disease which might subsequently interfere with the favourable progress of labour.

It was a remarkable fact, in the second case, that an experienced matron should have stated her case so ignorantly and so incorrectly. Here we see how important it is that the medical attendant should never satisfy himself, in any case of midwifery, with second-hand information, but faithfully exercise his own observing and reasoning faculties, that he may be enabled to form a correct diagnosis, when so much depends upon his doing so. This proved to be a case of partial placental presentation. Fortunately, the portion presenting was of small extent, so that the pressure of the head during active labour sufficed to arrest hemorrhage. It is true that formidable hemorrhage has occurred, or even proved fatal, under similar circumstances; but, doubtless, the timely rupture of the membranes proved a most important auxiliary in arresting the flow of blood, since the head was thus brought to exert direct pressure upon the

neck of the womb, and so close the bleeding vessels. Although the natural effort here proved sufficient to save the patient from imminent peril, we must remember that, as the exception proves the rule, so it is that in the vast majority of cases of placental presentation, the utmost promptness of action and skilled experience are imperatively required in order to save the life of the patient. This case would seem to favour the practice, now proposed, of passing the finger within and around the os uteri freely, and so detaching as much of the placenta as immediately adhered to the uterine neck, and then rupturing the membranes, that the head might be brought to press upon the os, and so arrest flooding. Under such circumstances the plug passed high into the vagina might be a useful aid.

The third case affords an example of post partum hemorrhage of a very formidable and dangerous character, since the occurrence of pain and sensible contraction of the womb, as detected by the hand, might lead to a belief that the natural efforts would arrest the flooding; yet I have found that this particular description of hemorrhage, arising, as it does, from irregular uterine action, is most troublesome in its progress, attended with much risk of life, and extremely difficult to control. There seemed to be an unusual amount of irritability of the uterus, indicated by distressing cramp-like pain; irregular contraction of this organ, manifested to the hand in making careful pressure over its fundus, whilst the contractile efforts were transitory, alternating with relaxation, and so giving rise to the profuse flooding which inevitably attends upon all such cases. The sanguine and nervous temperament would seem to predispose for the occurrence of this unfortunate complication. It is remarkable how large a quantity of blood may come away in these cases, in occasional gushes, before syncope is induced, leading to the supposition that the uterus may have been engorged with an unusual amount of blood in its sinuses during pregnancy. In the management of this case, pressure diligently made by the hand, over the fundus uteri, so as completely to regulate its contractions, and continued so long as the urgent symptoms may require it, is of the last importance. As auxiliaries, cold applications, or injections of cold water into the vagina, and the free circulation of cold air, are essential; whilst, in extreme cases, it may be necessary to apply warmth carefully to the feet and legs. I have never found it necessary to introduce the hand into the uterus in such a case as the one under consideration. A most important question here arises,

as to the propriety of using opium to correct this morbid condition of the uterus. I have tried it, under the sanction of high authority, but it did not improve the action of the uterus, or tend to control hemorrhage: and, therefore, I feel bound to prefer the plan of treatment above sketched to using opium in the hope of inducing normal and persistent uterine contraction. It was curious and instructive in this case to observe the tendency to irregular, and very painful, contractions of the womb, which recurred during three or four days. Recovery was good.

As, in many instances, differences become more striking by contrast, so it is in the present example. The cases four and five, considered as to their history, symptoms, treatment, and termination, afford convincing proof of the imminent danger consequent upon a partial separation of the placenta at the full period of pregnancy, even although this accident might not occur until after the birth of the child. We are also taught that, when this dangerous separation takes place *before* the delivery, the patient's safety depends upon emptying the womb, and securing its permanent and efficient contraction by the judicious employment of such means as the case may require; and that in post partum flooding a somewhat similar rule is to be observed in removing the placenta and securing efficient uterine contraction. As there did not appear to be any morbid adhesion of the placenta in case four, probably the mother's life was perilled in consequence of neglect or ignorance, in not taking care to secure the due contraction of the womb during the last stage of labour. There exist strong grounds to believe that in the fifth case life was forfeited through the want of due assistance in the hour of trial.

The sixth case was a singularly unfortunate one, comprising an abnormal presentation, together with deformed and contracted pelvis. In a practice of twenty-eight years, I have only twice met with a presentation of the side of the head. In both cases the crotchet was required, and one sunk under the effects of low fever. In this woman's first confinement it was found necessary to use the perforator and crotchet, because of the disproportion between the child's head and the pelvic cavity. The third child was small, born by the natural efforts, and had a hare-lip. The midwife stated that the face presented.

The seventh case affords an illustrative example of what I should propose to name "the hemorrhage of reaction," since it commences with the symptoms of reaction and subsides as they

are subdued. The hemorrhage here does not seem to depend upon deficient or irregular uterine action, as it occurs where the labour has progressed most favourably through all its stages. The symptoms which precede and accompany the attack are those of unduly excited and increased vascular action. The subjects of this form of hemorrhage are generally delicate females, and of a sanguineo-nervous temperament, liable to palpitations and flushings. It is an insidious and dangerous form of flooding, since the successful and speedy termination of labour may throw all parties off their guard; and thus, when least expected or thought of, a fainting fit may be the first warning of the alarming state of the patient. The discharge generally occurs within the first hour after delivery, and often after the lapse of about thirty minutes. It seems probable that a certain amount of exhaustion, induced in a delicate, weakly subject by the act of parturition, predisposes to this form of flooding, and that the tone and contractile power of the uterus may be deficient at the critical moment when reaction and general arterial excitement is set up—just such as often follows upon sudden loss of blood and other debilitating causes. In the present instance, a state of anxiety, depression, and feebleness of pulse continued during labour, and contrasted strongly with the high excitement which so quickly followed upon the completion of the delivery. I have always avoided the introduction of the hand into the womb under the circumstances here described, and have found the plan of treatment already stated to be quite satisfactory in its results. Stimulants, during the stage of excitement, are obviously contra-indicated; and, even where symptoms of exhaustion are induced, they must be resorted to with due care and watchfulness as to their effects upon the pulse. Strict attention, upon the part of the medical attendant, is required during the progress of labour, and for some time after it is completed. Possibly the early application of the binder, and the use of ergot immediately upon the birth of the child, might tend to avert this peculiar form of post partum hemorrhage. The permanent contraction of the uterus will be promoted by steady, continuous pressure made upon its fundus, from above downwards, so as to reduce the volume of this organ, and favour its descent into the pelvis. During this proceeding the uterus will be distinctly felt at one period contracted, reduced in size, and firm under pressure, and then to relax stealthily, as it were, and so to glide away from under the hand until its outlines are no longer traceable, and a gush of blood indicates a state of

alarming relaxation. This tendency to irregular action may continue for a considerable time, requiring imperatively the most assiduous care and attention. I have been urgently requested by a midwife to aid in delivering a poor woman of a *second child*, and, upon attending, found that the uterus was so enlarged as to reach the umbilicus; and yet, upon examination, there was nothing to be removed but an enormous quantity of coagula.

It would appear that in the eighth case hemorrhage resulted from the partial separation of the placenta during labour. The labour, although of short continuance, was, at its termination, accompanied by very violent efforts and severe suffering, so inducing an amount of excitement likely to favour the occurrence of flooding, and affords a salutary warning to be prepared for this dreaded complication. I have not seen any bad consequences follow upon the free application of cold wet napkins, and free exposure to cold air during a state of high arterial excitement—these remedies appearing to be the proper antidote for such a state of the system—but, if unduly continued *after the subsidence* of this state of excitement, doubtless injurious results will follow.

The ninth case affords a sad proof of the manifold dangers which beset the “hour of travail,” and becomes a painful example of the very remote source from which death may proceed. When it is remembered that a similar catastrophe may occur in any class of society, and in the hands of the most experienced, we must admit that this case is one of deep interest to every practical accoucheur. The occurrence of sudden death, during the progress of an apparently natural labour, would be an occurrence but too likely to lead to a charge of either ignorance or neglect upon the part of the medical attendant. Here, however, is a case recorded, affording abundant proof that the sudden and unexpected death of the patient was solely the result of natural causes utterly beyond the reach of human skill, either to control or remove them. The only symptoms indicative of the fatal malady, by which the patient was carried off, were a certain amount of anxious and oppressed breathing, with coldness of the limbs, but in nowise so distressing or urgent as to lead the midwife, a woman of much experience, to apprehend any immediate danger. The labour progressed favourably, and the presentation was natural; and had not a *post mortem* examination revealed “fatty degeneration of the heart,” the cause of death should have remained a mystery. Doubtless this important organ, in its enfeebled and altered condition, proved inadequate to the increased efforts which

it was called upon to make during the progress of labour. We have here an impressive warning as to the necessity of being extremely cautious in giving an opinion as to the *probable result* of any given case of labour, however apparently favourable existing symptoms may be.

In a medico-legal point of view, the tenth case is of some interest, as proving the possibility of accidental delivery, and ruptured funis, without any assignable cause, whilst the alarmed parent was wholly unable to succour herself or infant. We learn further that ruptured funis may occur in unassisted labour, and yet not give rise to fatal hemorrhage from the infant. A capacious pelvis may favour such an accident, especially when the infant is small, as in the present instance.

In conclusion, I would observe that it is always a matter of vital importance, in the treatment of uterine hemorrhage, to have our minds made up as to the peculiar circumstances and symptoms in each particular case, which should influence us to exhibit opium freely. From past experience, I cannot look upon opium as an appropriate remedy to *restrain* flooding; even in cases of irregular and painful uterine action, where the action of opium might reasonably be supposed to be salutary, and tend to arrest flooding by inducing regular and permanent contraction of the womb, this remedy has disappointed me. Doubtless, the exhaustion which follows upon hemorrhage, is best treated, in most instances, by the free exhibition of opium, hence I have always considered opium "the remedy" for *exhaustion*, as it occurs *after* uterine hemorrhage, rather than a remedy for the hemorrhage itself.

ART. XIII.—*Case of Pneumo-Thorax without Perforation, Rapidly Consecutive on Simple Hyperacute Pleurisy.* By WILLIAM SWAYNE LITTLE, M.B., T.C.D., Surgeon to the County Sligo Infirmary.

R. M., aged twenty-two, shopman, of very temperate habits, excellent constitution, and hitherto in the enjoyment of robust health; no hereditary disposition to pulmonary or other disease.

On the 28th of July, having occasion to go to Bray, and fearing he would be late to catch the train, he ran a long distance to the station, overheated himself, and got chilled in the train. The

following day, while leaning over the counter for a considerable time, taking stock, he was seized with a violent stitchy pain of the right side. A mustard blister and a dose of purgative medicine considerably relieved him; but the stitchy pains still continued, though he attached no importance to them.

On the 2nd of August, he returned, on business, and with his employers' leave, to his mother's residence, in the county of Sligo. His mother remarked that he had a cough, but he made light of it, and continued to bathe in the sea (as had been his habit in Dublin) for four days, when, his cough increasing, his mother made him discontinue the practice. On the 9th of August, he got a cough mixture, a warm plaster, and some purgative pills, from an apothecary in Sligo. In this way he remained—not quite well, nor very ill—till the 31st of August, when he came into the town of Sligo. On the following day, which was rough, cold, and very wet, he had occasion to walk about town a good deal, till late at night, when he returned to his lodgings, chilled, and tired, and with wet feet. Any cold or wet increased the pain of side, chest, and shoulders, since the date of the first attack in Dublin. That night, shortly after going to bed, he was seized with a violent aggravation of the pains, which mustard cataplasms and stupes of hot turpentine failed to relieve. On Wednesday (the following day), the people of the house, apprehending fever, as he was rapidly getting worse, insisted on his being removed to the fever hospital. When seen by Dr. Homan, the physician to that institution, and told that his case was not fever, he begged to be removed to the county infirmary, which adjoins the former hospital; and, accordingly, on Friday, he was admitted to the county infirmary, and came under my care sixty hours from the date of this second pleuritic seizure.

Before seeing the case I was prepared for something unusual, by my pupils (all ardent stethoscopists), who told me that a strange case of acute pulmonary disease had just been admitted, which had puzzled them all. On reaching the bed-side I was struck by the remarkably animated and intelligent expression of the patient's countenance, and by a tendency to volubility, which must have distressed him, and which I tried gently to check. I mention these things to show that aspect is not always a reliable guide, as certainly no one could have imagined, at first sight, that this patient was in the urgently dangerous condition which the stethoscope soon revealed and the result so very rapidly proved. The above history of the case, from the first slight pleuritic attack, on the 29th of

July, was taken from the much longer, and very clear and intelligent, statement of the patient.

On stripping the chest, the patient lying on his back, the following conditions were observable on a first glance:—Immobility and increased dimensions of right side, with obliterated intercostal spaces; the left side expanded and contracted laboriously, and the heart pulsated tumultuously, far over to the left side, not under the axilla, as is usual in copious thoracic effusions into right pleura, whether gaseous or liquid, but about midway between the axilla and lower rib, or between fifth and sixth ribs. There was little or no abdominal respiration—the abdomen itself being tense and tympanic—that function appearing to be carried on, almost exclusively, by the vicarious over-action of the left side. So far, all was consistent with the diagnosis of hyperacute pleurisy, with rapid and copious serous effusion; but, on percussion, I was unprepared to find the *whole of the right side presenting an absolutely drum-like resonance*, so loud and clear as to make percussion over the left (or sound) side *appear*, not merely relatively, but absolutely, dull. This preternatural resonance extended over the whole side, anteriorly and laterally. The patient was then assisted into a sitting posture, when the abnormal resonance below was exchanged for complete dullness, the limits of which were very clearly defined by a well-marked abrupt line, corresponding with the sixth and seventh intercostal space. This established the fact of the existence of liquid effusion to the extent indicated by the dullness; and I have no doubt we should have heard the splashing sound, but that the patient's condition prevented our using the necessary degree of succussion. The opportunity was now taken of measuring the chest, when the right side was found an inch larger than the left. On this subject I may remark, in passing, that the usual allowance of half-an-inch, for the greater capacity of the right side, appears to me to have been adopted hastily and on insufficient proof, as, in very many admeasurements of the chest, I have observed, generally speaking, no such disparity, and in a very large proportion of cases absolutely none. When again lying down, we observed that the abnormal clearness on percussion extended far to the left side of the mesial line, indicating mediastinal displacement, and accounting for the cardiac dislocation. The ear was now applied to the chest for the first time, the left lung presenting everywhere loud puerile respiration, the right perfectly silent. The amphoric resonance was especially well marked on speaking or coughing. The sound was

peculiarly ringing and metallic; and, though I cannot say that I ever heard anyone cough or speak with his head bent over an empty copper boiler (Dr. Watson's similitude for this sound), I can well imagine the two sounds to be singularly alike.

The rational signs in this case need hardly be detailed. They were:—Violent stitchy pains of the side, especially severe along the margin of the ribs and insertions of the diaphragm; frequent cough, with frothy mucous expectoration; dyspnea; respiration, 50; pulse, 140, compressible and markedly dicrotous; furred tongue; thirst; anorexia; confined bowels; decubitus, solely on back; a bluish tinge of cheeks, lips, hands, and chest betokened insufficient aëration of blood; head unaffected, the intellect remaining clear, and even vigorous, to the last.

Before offering any remarks on this case, it will be as well to state the results of the *post mortem* examination, for which we fortunately, but with great difficulty, obtained the permission of the family. Suffice it to say that the very active treatment which we deemed appropriate had no effect, and that our poor patient died on Monday morning, at two o'clock, just sixty hours after admission, and five clear days from the date of the attack—death resulting immediately from apnea, from the increasing pressure of the effused air on the left lung. For twenty-four hours before death, the smell of the patient's body, and particularly of his breath, was intensely cadaveric, exactly resembling the odour of a fresh body recently opened.

Autopsy, sixteen hours after death.—The external appearance of the chest was the same as that observed during life—manifest general enlargement of right side, and now evident *protrusion* of intercostal spaces. I know we have high authority—the very highest, in fact—denying the possibility of this phenomenon; but it undoubtedly did exist in this case. Moreover, these intercostal spaces presented a highly tense and elastic feel, precisely that conveyed to the fingers when pressing a stout Indian-rubber ball, such as are made for children's toys. The appearance of the side is, perhaps, better described by the graphic French term *bombe* than by any other. The resonance on percussion was everywhere the same as during life, or even encroaching still farther beyond the mesial line on the left side; in fact, it was more resonant on percussion than the abdomen, which was intensely tympanitic, and as hard as a board. This tenseness, elasticity, and protrusion of the intercostal spaces were still more remarkable when the integument and muscles were raised, showing a high degree of condensation of the confined

air, and the great mechanical pressure it must have exercised. The thorax was now punctured with a small hydrocele trocar, when the air rushed out, with a loud noise, through the canula, and with such force, and for so long a time, as to extinguish, several times, the flame of a candle held at a distance of several inches. The condensation which the constantly increasing aëriform effusion undergoes, and the consequent enormous pressure it can exercise on the lung, mediastinum, and diaphragm are well exemplified in this case, as in another of empyema with pneumo-thorax, detailed by Dr. Houghton (*Cyc. of Pr. Med.*), in which the thorax was punctured for the evacuation of the matter, below the level of fluid, the matter being projected with *surprising force*, and to a *great distance*, by the pressure of the condensed air above.

In our case this air or gas was destitute of all smell, and did not ignite.* I now very much regret that I did not collect a portion of this air, as I might easily have done in a bladder, tied over the neck of a gum elastic catheter, for the purpose of a rough analysis. A large triangular section of ribs was now raised quickly, revealing a state of things which it was almost impossible to believe could have been the result of diseased action of hardly five days duration. The right thorax appeared perfectly empty of lung, and of almost double its natural capacity—a result of the permanent and remarkable displacement of the mediastinum, which had been pushed so far to the left side that the points of the fingers introduced behind the sternum could raise the intercostal space within an inch (to the mesial line) of the left nipple. A lighted taper, immediately introduced into the farthest corner of this immense chamber, and before the air without could have displaced or become intimately mixed with that which it contained, burned without any change. The lung lay flattened up against the mediastinum, except inferiorly, where it adhered to the diaphragmatic pleura, over a space of a circular form and about the size of a half-crown piece. It presented the appearance of a thin, flattened mass, about nine inches in length, three in breadth, and not half an inch thick. The whole of its surface, as also that of the diaphragmatic and costal parietes, were

* I make this observation, which may, at first sight, appear irrelevant, because, many years ago I had the opportunity of performing the operation of paracentesis on a cow dying of pneumatosis, the result of mangold surfeit; and the gas (hydrogen ?) which for some time I was enabled to evacuate, by means of a large gum elastic catheter, burned steadily with a pale blue flame whenever a lighted candle was applied to the orifice of catheter.

covered everywhere with a thick exudation of plastic lymph, of a dirty, dark fawn colour—in some places, particularly over the diaphragm, so consistent as to be capable of being peeled off in large flakes, like a recent false membrane. There was a serous effusion to the extent of thirty-eight ounces—muddy and turbid, with flocculi of lymph, but not a drop of pus.

I now, with great care, removed the lung, keeping as close as possible to the root, not a drop of blood escaping from the large vessels. Thrown into water, it sank heavily; and cut into, had lost all traces of a resemblance to the pulmonary structure, but for the larger bronchial tubes, standing out here and there stiff and cartilaginous; it presented a good example of what has been termed the carnified, in contradistinction to the hepatized lung. Through the bronchial tubes we now easily re-inflated successive portions of the lung, so as to render them crepitant to the fingers and capable of floating on water. We did not need any further proof of the absence of pneumonic complication; nevertheless, every portion of the organ was minutely dissected and explored. It was evident that the functions of a perfectly sound organ had been suddenly destroyed, simply and purely by the mechanical pressure of the effused air, and its volume reduced to probably less than a fiftieth or sixtieth of its original capacity.

Remarks.—Though the rare disease, now termed pneumo, or, more properly, pneumonia-thorax, had not escaped the notice of Hippocrates—from whom the splashing sound heard where air and liquid are together present in the pleural cavity aptly received the name of “Hippocratic fluctuation;” and the mode employed to elicit this sound, that of “the Hippocratic method”—nevertheless it was not, as Dr. Houghton observes, till 1803, “when Itard published his dissertation, and assigned it its present name, that pneumo-thorax came to be considered, not as a mere accidental complication in some rare cases of empyema, or as only occurring after death, but to constitute, in itself, an important pathological condition.” The knowledge of this eminent physician, however, and his contemporaries, was exceedingly limited and inaccurate, and, in fact, abounding in absurdities, as might be surmised from the fact that, even in those comparatively modern times, morbid anatomy, and the pathology of thoracic diseases in particular, were little studied, and less known; and Laennec’s magnificent discovery had not as yet thrown its flood of light on this special and interesting

field of observation. As might be anticipated, it is to the stethoscope alone we owe, or ever could owe, whatever of precise knowledge we possess on these subjects; and to Laennec that we are indebted for the first approaches to that precision and accuracy which now signalize the diagnosis of thoracic diseases, and the explanation of their multiform results. Nevertheless, though this rare and interesting affection has been since illustrated by the labours of Laennec, Louis, Andral, Broussais, Royer, Saussier, Stokes, Graves, Williams, and others, I believe that, even at the present day, the question of the origin of the effused air in certain cases of pneumo-thorax has not been definitely settled, or satisfactorily disposed of; and it is particularly in reference to this hitherto open question or moot point that I consider the foregoing case as specially important and satisfactory.

Dr. Houghton, in his excellent article on pneumo-thorax, gives a very complete summary of the knowledge of that day; it is as follows:—

“Two sources are recounted by which air in the cavity of the pleura may originate. *It has been said* to be generated within that membrane; and it may be introduced from without. The former is the origin to which Itard ascribes it, in every case; and Laennec assents to this manner of explaining the six cases which he cites. In all these cases the pneumo-thorax was accompanied by a pleuritic effusion—the consequence, as they relate, of phthisis; and the latter author was of opinion that the gaseous development was caused by a decomposition of a part of the albuminous matter suspended in the puriform effusion; this, he adds, is rendered probable by the odour of sulphuretted hydrogen which the air exhaled. Neither this nor any of the other circumstances by which they were attended,” adds Dr. Houghton, “would incline observers at the present day, furnished with more precise and extended information, to agree to this method of explaining it; on the contrary, the examination of their details exhibits sufficient evidence to authorize us in referring them to a cause (the admission of air from without), which will be hereafter mentioned, as by far the most common of all. The other processes by which air may be developed within the pleura, as recounted by Laennec, will be afterwards adverted to. It may be stated that some of them are merely conjectural. . . . It may be laid down, as proved by the recorded experience of medical men, that where pneumo-thorax

exists *the air has been introduced from without.* The cases of an opposite description are so rare that they must be considered as exceptions to the rule. . . . The pleura, according to Laennec, in very rare cases, takes on the secretion of air, like the other serous membranes. This may take place singly, or the elastic fluid may accompany an aqueous or puriform effusion. *This variety has not been decidedly established by other pathologists* since the time of Laennec; and we record its existence merely on his authority, and on that of Andral, who relates a case of it in which, however, this origin was not unquestionably proved."

Dr. Copland, that generally diffuse and voluminous writer, who seldom treats a subject without thoroughly exhausting all that can be, or has been, said about it, in his article "Pneuma-thorax" (*Dic. of Pr. Med.*) dismisses the pathology of this disease in the following few lines:—

"Pneuma-thorax is the consequence of lesions, generally of both the lungs and the pleura, allowing *the irruption of air into the pleural cavity*, and thereby suddenly occasioning severe circumscribed pain in one side, great anxiety, and extreme dyspnea. It may occur at any period in the course of phthisis, &c."

In the article "Pleurisy," by the same able author, we find the following special allusion to the *presumed* origin of pneuma-thorax, occasionally, in the chemical decomposition of the other morbid products of pleurisy. These observations, however, do not touch the question at issue, or admit of any reference to the above case, as none of the conditions which are supposed to favour the chemical decomposition alluded to existed.

"The spontaneous evolutions of gaseous fluids from the products of pleurisy has been believed in by some pathologists and denied by others. The question at issue is, whether these products may become so decomposed during the life of the patient as to form a gaseous fluid. We know that this effect is not unfrequently observed after death. Dr. Hodgkin doubts the possibility of it during life, and Andral and Hasse appear to agree with him; for, in cases which occurred to them, in which gas *seemed* to have been spontaneously evolved from those products, they admit the possibility of some perforation of the pleura, though they failed to detect it.

Although the exuded matters, fluid as well as more consistent, may long remain unchanged, so long as the vital energies are not very much impaired; yet, when these energies are very far reduced, the products of inflammatory action are either insufficiently or no longer controlled by them, and various changes must ensue; some of these changes may be ascribed to endosmosis and exosmosis, others to the state of vascular action and of absorption, and a portion even to incipient putrefaction. The ulterior changes of the more fluid matters in pleurisy are not, as yet, fully ascertained; and the question as to the spontaneous evolution of gas from these matters is still undecided."

Graves, whose acute intelligence (sometimes, we must admit, on purely speculative and theoretical data) enabled him occasionally to anticipate the results of practical demonstration, has a very interesting and valuable reference to this subject in his excellent lectures. To him, undoubtedly, is due the credit of having first assigned "pleural secretion" as an occasional origin and solution of some obscure and puzzling cases of pneumo-thorax, though the explanation of this phenomenon which he offers (*viz.*, the absorption of atmospheric air into a depleted vascular system) is, no doubt, fanciful and incorrect. The following are his observations:—

"In the case I have now called your attention to, the air found in the pleural sac made its way through the fistulous openings connected with the bronchial tubes. This is the ordinary form of pneumo-thorax; but, although the fact has been doubted by many writers, my experience leads me to the conclusion that air *may be secreted into the pleural sac*. Andral, who at one time believed that pneumo-thorax might occur thus, has, I find, changed his opinion; and, in some lectures recently published, states that *air is never met with in a shut sac, unless it has made its way there by a rupture*. Now, the following are my views:—When there has been long-continued loss of blood from any cause, the blood contains an unusual quantity of air, for nature, by absorbing air, in these cases makes an effort to keep the vascular system sufficiently full, and this air may be secreted into any part of the body."

Dr. Graves then proceeds to detail fully two very interesting cases of pleuro-pneumonia—one of the left side, with extreme cardiac dislocation, the infero-anterior portion of left side of chest

giving a preternaturally clear sound on percussion, *particularly in the region usually occupied by the heart*; the other of the right side, in which the development of air in the right pleural sac followed suddenly on extreme pneumonic dulness, and as suddenly disappeared in sixteen hours, when the pneumonic dulness again reappeared.

Dr. Williams, in *The Library of Medicine*, remarks on these cases:—"Pneumo-thorax is also said, by Graves, Hudson, and others, to have occurred, in a few instances, at the commencement of pneumonia, and to have soon afterwards disappeared; but as the chief sign in these cases was a remarkable resonance on percussion, we suspect that these were examples of the production of tracheal or amphoric sound, from consolidation of the upper lobe of the lung, and not pneumo-thorax."

As both of Dr. Graves' patients recovered, we cannot consider them as satisfactorily proving what he seeks to establish, in the absence of the crucial test of a *post mortem* examination. Though I quite agree with him that the criticism of that eminent opinion and authority, Dr. Williams, is utterly invalidated by his having omitted all notice of the remarkable dexocardia which occurred in Graves' first case, failing to account for which his other objections may literally count for nothing.

Dr. Williams, in *The Library of Practical Medicine*, has the following observations:—

"Pneumo-thorax may be produced in three ways:—First, it may be the consequence of a partial pleurisy. We have mentioned that after a pleuritic effusion has long compressed the lung, and the compression has been perpetuated by a rigid false membrane formed over it, the absorption of the liquid leaves a void, which the collapse or contraction of the walls of the chest is, in some cases, insufficient to obliterate; and this void is sometimes filled by air secreted by the membranes. We have seen two instances of partial pneumo-thorax produced in this way; they each occupied about half the pleural sac—the one the upper, the other the lower half—and the lung in both cases was strongly bound down by fibro-cartilaginous membrane. This kind of pneumo-thorax is very rare.

"Another kind of pneumo-thorax is that which may be called 'idiopathic,' and arises from an effusion or secretion of air into the sac of the pleura without perforation. This is also of rare

occurrence; *it is said* to occur sometimes towards the termination of fatal disease, in the same manner as tympanitis occasionally occupies the peritoneal sac under similar circumstances. We have never met with such a case in which the signs of pneumo-thorax were observed during life; but we have several times seen a little air in the pleural sac, when opened after death, without any discoverable perforation of the pleura. It is possible that a little air may have been exhaled from the animal fluids after death, and then increased by exosmosis through the lung. The facility with which air permeates dead membrane countenances such a notion."

The third kind is that above referred to in Dr. Williams' observations on Dr. Graves' cases.

Dr. Watson, in his excellent lectures, while he is, as usual, extremely graphic in the symptomatology and descriptive history of pneumo-thorax, is rather undecided, and even vague, as respects its pathology. After treating of the metallic sounds and amphoric resonance, &c., he says:—"They are very singular, and they are perfectly decisive, as far as my experience goes, of the presence of air in a considerable cavity within the thorax, which cavity mostly contains liquid also, and of the presence of air and liquid in the cavity of the pleura in particular. I do not know that the liquid is essential—I do not believe it is—but commonly there is some liquid and a good deal of air; almost always, too—but that is not indispensable—the cavity communicates with the external air either through the walls of the chest or through the bronchi, &c.

"Sometimes air is effused into the sac of the pleura in consequence of the rupture of dilated air-cells on the surface of the lungs; sometimes gas is generated there from the decomposition of effused liquids, and in such cases the gas has a strong odour of sulphuretted hydrogen; sometimes, again, *gas appears to be secreted* by the membrane itself. All these events are, however, uncommon."

Dr. Stokes, in his work, *Diseases of the Chest*, discusses the subject of pneumo-thorax under the three following heads:—

- 1st. In pneumonia.
- 2nd. With fistula from phthisis.
- 3rd. In gangrene.

It is only in a passing reference, under the first of these heads, to Dr. Graves' cases, above referred to, that we find anything specially referable to the question of pneumo-thorax *by secretion*, on which,

however, this eminent authority is unmistakably explicit. In treating of pneumonia complicated with pleurisy, he says:—

“In this disease there are three conditions of the pleura which produce physical signs—

“1st. The effusion of lymph.

“2nd. Of sero-purulent fluid.

“3rd. Of air.

“I have arranged these in the order of their frequency. The first is almost constant; the second is comparatively rare; and, out of many hundred cases, I have seen but one example of the third.”

After enumerating the pleuritic physical signs in pleuro-pneumonia, he proceeds:—

“But of all those signs the most remarkable is the tympanitic clearness over the diseased lung, a phenomenon evidently proceeding from an effusion of air by secretion into the serous cavity. The first writer who noticed this subject is Dr. Graves, who published, in 1835, the remarkable case, to which I have before alluded, of pneumonia with *bruit de soufflet* and throbbing of the chest.”

The case to which Dr. Stokes refers, in the above quotation, as the only one in his (then) experience affording an example of this rare phenomenon—namely, the effusion of air from an inflamed pleura—was one of severe typhoid pneumonia, running rapidly into hepatization. It is thus described:—

“On the eighth or ninth day of the disease the antero-superior portion of left side, where, on the previous day, there had been complete dulness, gave a clear, sonorous, tympanitic sound, similar to what is produced in the stomach in the highest state of flatulent distension. On the following day the tympanitic clearness had extended to the postero-superior portion of chest; but, on the following day, all had subsided, and the chest was again dull, with absence of vesicular murmur.

“This case is decisive as to the question, how far the tympanitic resonance is to be referred to a distended stomach? That such was not the case here is evident; for the sound only existed in the upper portions of the chest, and the region of the stomach was never tympanitic.”—*Diseases of Chest*, page 334.

Towards the conclusion of a very able article by Dr. Hudson, entitled, "Observations on Typhoid Pneumonia, with Cases," published in the seventh volume of *The Dublin Journal*, page 372, I find the following remarks:—

"I shall next advert to the remarkable phenomenon presented by cases two and seven of '*tympanitic clearness on percussion over a solidified lung, without air being present in the pleura.*' I do not know any word to express this sound; it varies in degree rather than in kind from that produced by percussing over the empty stomach or cecum; and is like the *tintement metallique* of percussion of Martinet and Andral, sometimes heard over a tubercular cavity.

"In the twelfth and sixteenth numbers of *The Dublin Journal* Dr. Graves has described two cases of pneumonia, accompanied with morbid clearness on percussion, which he explains by secretion of air from the inflamed pleura; and I observe that the learned editor of *The Medico-Chirurgical Review* not only concurs in this explanation, but gives a case precisely similar to the one last related by Dr. Graves, adding that '*dissection has not yet confirmed conjecture in any of these instances.*' Having met with four cases in which the observation of '*the phenomenon was followed by dissection,*' I shall briefly relate them. The first, which, at that time, surprised me not a little, was that of a man who died of extensive inflammation of left lung in the Meath Hospital, in the Spring of 1832. At the close of this case, from the *hollow* sound on percussion of the lower part of left side (previously quite dull), a pretty general opinion existed that a pneumonic abscess had formed and burst into the pleura. The side was punctured accordingly, *but no air escaped; and further dissection showed the pleura adherent to two-thirds of the lung, red and solid, but no abscess.* The next was a man who presented himself at the same hospital with the history and symptoms of phthisis; and on percussion under the right clavicle, there was such a muffled, tympanitic sound, with tracheal respiration and vocal resonance, that all who heard these phenomena expected to find a large tuberculous cavity. Dissection, however, *showed the lung hard and solid throughout, from chronic pneumonia.* The other two cases (numbers two and seven of this paper) were similar to that of Drillon. It seems to me very obvious that these cases cannot be brought under the explanation given by the high authorities just quoted; and I confess myself quite unable to give one which would be considered more satisfactory. In some instances

it has been accounted for by the transmission of the sound of the tympanitic stomach through the solid lung. I think this explanation will apply to three of my cases which occurred on the left side; the fourth will demand a different one, and it might, perhaps, be found in the facility with which the vibration of air in the bronchus and its larger divisions, might be supposed to be communicated through a lung in that condition, that is, solid throughout; and, therefore, not permitting the loss in a mixed medium of solid and healthy lung, of such vibration. This is a mere conjecture, which may be readily denied and not easily confirmed; but of the fact I am certain *that a sound equal at times in clearness to that of pneumo-thorax may be yielded by (or rather through) a solid lung, under certain conditions*; and since the researches of Graves, and Stokes, and Andral, have shown that absence of all sound of respiration may exist in the same circumstances, I submit that a great mistake is likely to arise from too hasty an explanation of the combined phenomena, by supposing the existence of simple pneumo-thorax."

Now, I think it must be perfectly obvious, on a careful perusal of the above extracts from the writings of a few of the most eminent of our stethoscopists and thoracic pathologists, that, even up to the present day, there does not exist in the profession a definite and explicit knowledge as to the origin of æriform effusion in some rare and exceptional cases of pneumo-thorax; those, for example, which Graves has termed (not very accurately, I think) simple pneumo-thorax. "Simple *pleuritic* pneumo-thorax" I would, with some diffidence, suggest, as a better designation, at once associating it with its undoubted pathological cause—pleural inflammation—and contradistinguishing it from all those cases where the effused air is derived from without the pleural sac. To Graves, undoubtedly, belongs the credit of having first suggested the possibility of pneumo-thorax originating in a secretion of air by an inflamed pleura. Stokes alone, of all the eminent pathologists whose opinions are cited above, gives an unqualified assent to this view; and though the arguments in support of this view, founded on the remarkable physical signs observed in three cases by Graves, and in one only by Stokes, coupled with the eminence of the authorities who advance them, are undoubtedly strong, they can hardly be deemed conclusive and unimpeachable in the absence of *post mortem* verification, in the face of some well-known sources of fallacy, and taking into account the more or less of imperfection to which

physical diagnosis must, in some cases, be ever subject. Even in the case of so able a stethoscopist and pathologist as Dr. Hudson, we have seen that the most practised ear and the most accomplished intelligence may fall into grievous errors of diagnosis, which only a *post mortem* examination could rectify. Undoubtedly, in Graves' case (the first cited above) of extreme cardiac displacement to the right side, with tympanitic resonance on percussion all over the infero-anterior surface of the chest, *particularly in the region usually occupied by the heart*, all the conditions of an infallible diagnosis appear to have been rigidly fulfilled; and yet we find so eminent an authority as Dr. Williams flatly denying its correctness; and in the last of Dr. Hudson's four cases we see that we may have tympanitic percussion and vocal resonance in the sub-clavicular region over a lung *hardened and solidified by chronic pneumonia*.

I need not encumber this paper (which has already run to a greater length than I anticipated) by many more observations of my own. The application of what I have already written, and of the quoted extracts, to the case with the history and *post mortem* examination of which I have commenced, is obvious. It appears to me that, over and above its direct value in the elucidation of the *questio vexata* so often alluded to, this case possesses a singular interest in the comparative simplicity and distinctness of the lesions revealed by the autopsy—a simplicity and distinctness which disembarass us at once and effectually of many sources of error and fallacy, which a case of more complicated and diversified lesion might have entailed. Had the patient been the subject of long-standing pulmonary or other delicacy—had the disease lasted sufficiently long to have induced other or more complicated organic changes—or had the case been so complicated from the first—were the lung tubercular or pneumonic—or had the liquid effusion been purulent or sero-purulent, instead of simply serous, our difficulties in assigning a precise origin for the immense and rapid aëriform effusion would have been proportionately increased. But here we have a young man, previously healthy, suddenly struck down by an acute inflammatory attack, and dying in five days; and of the precise nature of this attack and its results there cannot be a second opinion. There can be no mystification of the simple pathological conditions revealed by the *post mortem*—no room for the discussion of a minute fistulous communication with the bronchial tubes which might have escaped detection, or of any other possible or imaginable *ab extra* source of the effused air. It was unmistakably a case

of simple hyperacute pleurisy, resulting in, at most, two days—very probably in a few hours—in “*simple pleuritic pneumo-thorax*,” the consequence of secretion of air from the pleural membrane. If the detail of the *post mortem* examination be referred to, it will be seen that the utmost care was observed in the examination of the lung, and there cannot be the shadow of the possibility of an error in the conclusion arrived at—that the organ was perfectly sound. Successive portions of it, it will be seen, were re-inflated through the bronchial tubes, restoring its vesicular structure, and rendering them capable of floating lightly on water, as portions of a healthy lung would do. Every portion of it was afterwards dissected throughout, and minutely examined over and over again, and not a trace of tubercle, or drop of pus, or an approach to *morbid* condensation was anywhere present. In fact, as stated before, it was manifest “that the functions of a perfectly sound organ had been suddenly destroyed, and its substance crushed and carnified, simply and purely by the mechanical pressure of the confined and extremely condensed air.”

I believe, then (if I have not been, without my knowing it, anticipated in the matter), that the foregoing case offers the first perfectly satisfactory solution of an old pathological puzzle, satisfactory in all its details—in its history, physical diagnosis, and especially in the very clear and unmistakable evidence furnished by a careful *post mortem* examination. I may be mistaken, but it appears to me that not a link is wanting in the chain of demonstration, that in certain cases of inflammation of the pleura (which must be *exceedingly rare and exceptional*) that membrane is susceptible of taking on a peculiar morbid action, whereby air is *copiously secreted* into the pleural sac, inducing a rapidly fatal form of that disease which I have ventured to designate “*simple pleuritic pneumo-thorax*.”

P.S.—Since writing the above, my friend, Dr. Lynn, has shown me, in the Sydenham Society *Year-Book* for 1861, the advertisement of “A Case of Empyema, with Consecutive Pneumo-Thorax, without Perforation, by W. Keller,” from *The American Journal of Medical Science*, January, 1861. I have not read the case, so cannot say whether it anticipates my communication in any important particular. I have also, in *The Lancet*, for April 10th, 1849, encountered a notice of an interesting paper, read before the London Royal Medical and Chirurgical Society, by Dr. Hamilton Roe, of

Westminster Hospital. The author enumerates four distinct sources from whence the air may be derived:—1st. *From secretion*. 2nd. *From decomposition*. 3rd. *From rupture of emphysematous cells*. 4th. *From fissure*. The only case bearing at all on the present inquiry (the details of which are not given) was, I presume, one of empyema. The author attributes the pneumo-thorax in this case to decomposition.

ART. XIV.—*Paralysis Caused by Working Under Compressed Air in Sinking the Foundations of Londonderry New Bridge*. By T. H. BABINGTON, M.D, Surgeon Londonderry County Infirmary; and A. CUTHBERT, M.D., Medical Officer Glendermott Dispensary, Londonderry.

THE new bridge recently erected over the river Foyle, at Londonderry, is an iron structure, nearly 1,300 feet long, consisting of two platforms or roadways—the lower for railway traffic; the upper, a carriage way, with footpaths for passengers and ordinary traffic. The whole structure is supported on 16 cast iron cylinder piles, placed in pairs, 35 feet apart, at intervals of 119 feet. Resting on the centre cylinder there is a swing-bridge, which is opened and closed for navigation. Each cylinder is 11 feet in diameter; 1½ inch thick; and, when sunk to the proper foundation, was filled with concrete, composed of sand, gravel, and cement. The centre cylinder supporting the swing bridge is 30 feet in diameter; and rests on seven smaller ones, 8 feet in diameter. These cylinders were all sunk to solid foundations before being filled with the concrete; and these foundations were obtained at various depths—the greatest depth 75 feet from the surface of the water,* and 40 feet below the bed of the river.

* In the London Times for July 7, 1859, we find the following notice of a bridge built on the Nile:—

“The Kaffre Azzyat Bridge.—This important, malleable, iron girder beam-bridge across the Nile, is nearly 1,400 feet long; has 11 openings—2 of which are 104 feet each; and spanned by a swing beam. The centre of the swing rests upon a foundation pier, composed of 6 pillars of 10 feet diameter each; and the remaining 11 foundation piers are of 2 pillars each, 10 feet diameter. These 28 foundation pillars were sunk by compressed air, on Mr. John Hughes’ principle, to an average depth of nearly 60 feet below the bed of the river, and to 85 feet below high water. The internal pressure on the caissons, while sinking, ranging from 20 lb. up to 34 lb. on the square inch, in accordance with the depth of the ground and the height of the Nile.”

It is obvious that to sink these cylinders, and to effect the excavation at such a depth, was a work of no ordinary difficulty. The workmen were to be got into, and out of, the cylinders; the cylinders were to be kept empty of water; excavations were to be carried on; the contents of the cylinder, earth, stones, &c., to be removed; and the concrete for filling to be introduced. All these objects were accomplished under the direction of Mr. Hughes, the able and indefatigable resident engineer, by the same means and machinery which he had first successfully used in sinking the foundations of the bridge over the Medway, at Rochester, and afterwards at Chepstow, and at the viaduct at Saltash. A detailed account of the plans adopted at Rochester is to be found in the tenth volume of *The Proceedings of the Institution of Civil Engineers* for May 13, 1851, in a paper by Mr. Hughes, entitled "The Pneumatic Method adopted in Constructing the Foundation of the New Bridge on the Medway, at Rochester. By John Hughes, C.E." We are indebted to, and beg to thank, Mr. Hughes, for kindly placing all his papers at our disposal.

The idea carried out was to give each cylinder the character of a diving bell during the operation of excavating and removing the materials from the interior, and filling in the concrete. Each cylinder was to be kept free from water, to enable the workmen to excavate until the cylinder was sunk to its proper foundation, and all the matters promptly removed from the interior; and the cylinder should be made to descend vertically.

To carry out these objects—that is, to sink the cylinder to its proper foundation—to excavate the interior—to keep the cylinder dry and free from water—and to remove the contents and introduce the concrete for filling, Mr. Hughes designed an apparatus as follows:—One of the cylinders—7 feet in diameter, and 9 feet long—was fitted with a wrought iron cover, securely bolted to it; through this cover 2 cast iron chambers, called air locks, projected $2\frac{1}{2}$ feet below the top of the cylinder, and 3 feet 9 below the cover—D shaped, with a sectional area of 6 square feet; the top of each air lock was provided with a circular opening, 2 feet in diameter, with a flap working on a horizontal hinge, which served to close it hermetically when the cylinder was filled with compressed air. The communication from the chamber to the inside of the cylinder was through a rectangular opening, 2 ft. by 3 ft. 4 in., on the flat side of the chamber, and had an iron door working on vertical hinges, to close it hermetically when required. The flap was analogous in

its use to the lower gate of a canal lock, and the door to the upper gate. The air locks were furnished with cocks communicating from the cylinder to the chamber, and from the chamber to the atmosphere. Each lock had two sets of cocks—one accessible from the inside of the chamber, for the use of men passing into and out of the cylinder; the other for use in passing buckets through the air locks. One cock, communicating between the chamber and atmosphere, was in charge of a man inside the cylinder, who, having closed the door, could let off compressed air, and so pass a bucket from within to the outside; another communicating from the interior of the cylinder to the chamber, was worked by a man outside, who had power, on closing the flap, to fill the cylinder with compressed air, and to pass a bucket from the outside to the inside. Light was admitted by lenses, and candles were burned at the bottom. Compressed air was supplied to the pile by a double-acting pump, with 2 barrels, 12 inches in diameter, and 18 inches stroke, driven by a 6-horse power non-condensing engine; the air supply pipe was $2\frac{1}{2}$ inches in diameter. The pumps being set in motion, the flap of one of the air locks, and the door of the other, were closed; a few strokes compressed the air within the pile sufficiently to seal the joints; and every subsequent stroke delivered an additional quantity, until the density was sufficient to expel the water (either underneath the cylinder or through a syphon) and leave the bottom dry. Whilst the pumping was in progress the men passed through the air locks to their places—each man dropped into one of the air locks, of which the flap was open; this he closed with one hand, and with the other opened the cock which admitted compressed air from the pile into the air lock. As soon as equilibrium was established between the two, the door opened with the slightest force, and the man stepped on the stage within the cylinder. A man could pass from the inside of the pile to the outside by the same lock, by closing the door and opening the cock communicating with the atmosphere.

The men worked under variable pressure—in some instances 27 or 28 lb. to the square inch; in others, as high as 35 and 38 lb.; and, in one instance,* as high as 43 lb. The effects experienced by the workmen were pain in the ears, which soon passed away, or was

* The amount of pressure was indicated by a gauge inside the cylinder, the indications of which denoted the increase of pressure above that of the atmosphere at 15 lb.; thus, an indication of 28 lb. on the gauge would represent a total pressure of 43 lb.—viz. 28 lb. + 15 lb. weight of atmosphere.

relieved by the act of swallowing; headache; increased sense of hearing; anomalous pains in the limbs; occasionally bleeding from the nose; and a feeling of general distress and uneasiness. These symptoms were all much increased when, the air-cocks having been opened to the full extent, the transition from one medium to the other was too rapidly effected. The state of the general health and the previous habits of the workers appeared to exercise considerable influence on the symptoms. These symptoms were felt on first passing into the compressed air, but to a much greater extent on the pressure being removed, on their passage from the cylinder to the external air; and in this stage of the works the serious and fatal* effects were produced.

CASE I.—On the evening of 3rd October, 1861, Dr. Cuthbert was summoned to visit Denis M'Loughlin, aged 28 years, who had become suddenly ill on reaching the open air from the interior of one of the cylinders. Dr. Browne, of Londonderry, was in attendance, and had requested Dr. Cuthbert's assistance. M'Loughlin, after working for four hours under a pressure of 23 lb. to the square inch, had, on reaching the outer air, suddenly fallen into a state of insensibility. He was at once carried into a shed close at hand, by his fellow workmen, who ineffectually endeavoured to pour some stimulant down his throat. He was lying on his back in a state of total insensibility; the surface of his body cold and livid; eyes nearly closed; right side of face partially paralysed, and the mouth drawn to the opposite side; strabismus of right eye; pupils of natural size, but very sluggishly obeyed the stimulus of light; the pulse at the wrist very weak, fluttering, and irregular, and with difficulty reckoned about 150; first sound of heart almost inaudible; second sound quite so; respirations very irregular, varying from twenty-four to forty-four in the minute; inspiration a very short jerk; expiration prolonged, moaning, and laboured; respiratory murmur heard feebly over every part of the chest with the short inspiration; teeth firmly clenched; no lividity of lips;

* Mr. Hughes has informed us that he had no fatal cases at either Rochester or Chepstow, and only one at Saltash, in a man of broken-down health, who died on leaving the cylinder, in which he had been a very short time. At the sinking of the Kaffre Asmyat bridge five Arabs died from effects of pressure—one in the cage, coming out, before he reached the outer air; another became exhausted in the cylinder, and died after passing through the cage; the three others died in a similar way. All were men without stamina. Blood issued from their mouths, noses, and ears. These fatal cases occurred when the pressure was above 30 lb.; the death in the cage was at 36 lb. The men working below did not complain of inconvenience or suffer from accident.

sometimes the mouth moved, and the tongue slightly protruded; when the soles of the feet were briskly rubbed with a coarse towel there were slight muscular movements of the legs. The patient's condition seemed hopeless in the extreme, being a strange compound of those states which we are in the habit of denominating *coma* and *asphyxia*. It was at once evident that serious mischief had occurred in the brain, producing the facial paralysis and deep stupor, and that this mischief had extended to the medulla oblongata and upper part of spinal cord was only too probable; thus implicating an important portion of the respiratory tract, and accounting for the serious respiratory distress. At the same time the heart's action was so weak that the pulse at the extremities was almost imperceptible, and the normal second sound was altogether absent. A small quantity of sal volatile was poured down his throat, and the surface of his body was briskly rubbed so as to restore the natural warmth, and the lower extremities were immersed in a hot mustard bath. The heat of surface was restored, but no other perceptible improvement was evinced. After much anxious deliberation it was determined to try the effect of a cautious blood-letting, and twelve ounces of blood were slowly taken from the arm (the blood was black, very black, viscid, and treacly). The pulse remained unaltered whilst the blood was flowing; but, as the respiration seemed to become more laboured, when the above quantity had been drawn, it was deemed prudent to desist. An enema, containing two drachms of sulphuric ether and half an ounce of turpentine, was injected into the rectum and retained, but no effect whatever was thereby produced upon the pulse or respiration. The man's state underwent no alteration, except that the respiratory movements became gradually more feeble, and he sank at six p.m., on the 4th of October, exactly 24 hours after coming out of the cylinder.

CASE II.— Carlin was similarly seized about the same time. His condition was so entirely alike that of the previous patient that any minute description of his state is unnecessary. In his case there was no facial paralysis. Strange to say he lived exactly the same length of time as the other patient, viz., 24 hours.

CASE III.—October 10, 1861. W. M., aged 23, reported as being seriously ill after working in a cylinder of new bridge; when visited was found much depressed, but quite sensible, complaining of severe pains in his legs and thighs; pains not increased by pressure, but described as being very sharp and shooting. He was quite unable

to walk, and his legs and feet were cold and numb. He was sitting with his feet *almost in the fire*, and several of his toes were considerably burned without his even experiencing the sensation of heat. This man had not been taken ill suddenly, as he had had pains in his legs for some days previously, and it was some hours after coming out of the cylinder that he became so ill as to require medical attendance. The man was put into a warm bed, and given a little brandy, and his legs were briskly rubbed with a stimulating liniment. In two days he was quite well, with the exception of his burned toes, which slowly healed.

CASE IV.—Daniel Doherty, similar case to above; severe pains in legs relieved by stimulating liniments. This man had hemoptysis some short time afterwards, but is now quite well.

CASE V.—James M'Nulty, aged 18, went to work in the cylinder on the morning of 3rd October, 1861. After being four hours under pressure, on coming out of the cylinder into the air lock, and whilst the pressure was being lessened, he fell helpless. He was visited immediately, and was found lying in a semi-comatose condition, able to answer questions on being roused, but speedily relapsing into a state of insensibility. The comatose symptoms passed off in about 18 hours, when he was found to be totally paralysed from the fourth rib, to have retention of urine, loss of sensation, and all the usual symptoms which accompany the worst form of injury of the spine in the cervical region. He was next day removed to the County Infirmary, where he remained till his death, on the 17th of March, 1862, having been in hospital 160 days; sensation or the power of motion never were restored. For a long period before his death he had incontinence of urine and feces, and died exhausted from the effects of universal bed sores.

CASE VI.—John Murray, aged 30, admitted to infirmary with precisely similar symptoms as in M'Nulty's case, with the exception that the paralysis and loss of sensation did not extend above the 8th dorsal vertebra. He lived 30 days, and died from the effects of bed sores so often seen in spinal injuries.

He was a man of weak constitution and of irregular habits.

These are notes of four fatal cases, and two not fatal. Many cases of slight paralysis and muscular pains, and other anomalous nervous affections, came under observation, but it is unnecessary to enter into the particulars of each case.

It is much to be regretted that we were unable to have a *post mortem* examination on any of the cases, and we freely admit that the interest attached to them is much lessened thereby. It may seem out of place to offer any opinion as to the cause or nature of the symptoms in the absence of so essential an element to the full understanding of the subject. We may, however, hazard a speculation which may be taken for what it is worth.

It seems clear that in all the cases the nervous system was chiefly and primarily implicated. The idea of any noxious element in the condensed air, which has been broached by some, must be abandoned, as the workers* suffered no inconvenience during their stay (from three to four hours) in the cylinder; all the cases of serious illness occurred on the removal, more or less sudden, of an excess of pressure. It seems reasonable, in the absence of any other cause, to suppose that this sudden transition from a condensed to an ordinary atmosphere gave rise to the serious and fatal injuries we have recorded. Why should this sudden change so remarkably affect the nervous system? It seems to us that what under ordinary circumstances is the protection of the nervous system from injury and accident, becomes in these cases a cause of danger and fatal disease. The brain and spinal cord, encased as they are in bony cavities, and having their vascular supply conveyed through vessels similarly encased, cannot yield to alternating rates of pressure with the same facility as parts of a more elastic and pliant nature. Hence the brain, working together with the other parts of the body under excessive pressure, cannot, when the pressure is removed from the surface, accommodate itself to the altered circumstances so rapidly as other organs; the excess of pressure on the brain and spinal cord must pass off by the narrow passages in which the blood is carried to and returned from the brain and nervous system generally. The bony canals in which the vessels are enclosed render this process a tedious one, and the excessive pressure has, therefore, a tendency to expend itself on some of the delicate structures of the brain or cord, causing rupture of smaller vessels or other analogous injury, and thus producing the fatal catalogue of symptoms which ended in the deaths of the four workmen, whose cases we have above recorded.

* That there was no excess of carbonic acid gas was evident from the fact that the candles in the cylinders burned with increased brilliancy. Hens, dogs, and rabbits, were kept at the bottom of the cylinder for many hours without any symptom of suffering or injury.

ART. XV.—*Notes on Diabetes Insipidus.* By the Rev. SAMUEL HAUGHTON, M.D., Fellow of Trinity College, Dublin.

I AM indebted to the kindness of my friends, Dr. Law, Dr. Hudson, and Dr. Stokes, for the opportunity of observing the following cases; and to the skilful assiduity of Mr. A. W. Foot, M.B., for the accuracy with which two of them are recorded. These cases appear to me worthy of record for different reasons: the first, from its connexion with diabetes mellitus; the second, from its apparent causes—alcohol and syphilis; and the third, from its obvious relation to well-marked cerebro-spinal symptoms.

CASE I. (Sir Patrick Dun's Hospital, under the care of Dr. Law).—M'Cabe (aged fifty-five?) was admitted into Sir P. Dun's Hospital early in November, 1859, with symptoms of moderate diabetes. He was about fifty-five years of age, according to his own account; but, as he recollected the insurrection of 1803, in Dublin, he must have understated his age considerably; and was, probably, sixty-six years old—a supposition confirmed by his statement, that he had no personal recollection of the rebellion of 1798.

On the 21st November I collected his urine for twenty-four hours, and found that he passed 6 pints, of sp. gr. 1007·70, which contained, *inter alia*, the following ingredients:—

Urea,	.	.	.	.	.	.	.	340	grs.
Sugar,	.	.	.	.	.	.	.	147	„
Albumen,	.	.	.	.	.	.	.	none.	
Phosphoric Acid,	.	.	.	.	.	.	.	33·24.	
(With Alkalies,									30·84
With Earths,									2·40).

When asked about the quantity of urine he passed, he said that he always passed all that he drank, more or less; and constantly repeated—"Sure, I pass what I drink; my skin is no good."

He seemed rather fuzzy in his intellect; but, perhaps, not more so than a man of his age, worn out with hard work and bad food, has a right to be.

I examined his urine again on the 7th February, 1860, and found the following results:—He passed, in 24 hours, 7½ pints of urine, of sp. gr. 1002·9, containing, *inter alia*, the following:—

Urea,	261·4	grs.
Sugar,	none.	
Albumen,	none.	
Phosphoric Acid,	32·8.	

(With Alkalies, 23·8

With Earths, 9·0).

His daily food, at this period, consisted of:—

Bread, . . . 12 oz., equivalent to	200	grs. urea.
Milk, . . . 1 pint	58	„
Tea,* . . . 1 „	6	„
Beef Tea, . . 1 „	28	„
Porter, . . . 3 „	81	„
Whey, ^b . . . 4 „	—	„
Total	373	grs. urea.

M'Cabe was frequently offered the use of animal food; but always said that since he had taken "the thirst," about twelve months ago, he had ceased to care for solid food.

It appears, from the preceding observations and calculations, that the food used by M'Cabe was quite sufficient to account for the urea passed by him; and, as his weight was 140 lbs., it follows that the quantity of urea per pound, of body weight, at the two periods of observation, were 2·43 grs. and 1·87 grs., respectively. This latter amount falls below the 2 grs. per pound which I have shown to be essential to the healthy performance of the work included in the term *opus vitale*; and it was observed by us that, at the period when this occurred, a partial semi-torpor of his mental faculties supervened, and that he presented all the symptoms of incipient uremia.

Another feature of great interest in this case is the fact that it appeared to be the termination of a case of *diabetes mellitus*, which had passed into the stage of *diabetes insipidus*. I am quite certain that I could not be mistaken in my first determination of the amount of sugar present, as I repeated my experiments on the subject with consistent results.

No history of the case could be obtained previous to admission into hospital; and he left us to go to some friends in the country, shortly after my second observation.

* The tea of Sir P. Dun's Hospital contains 1 oz. of tea to 6 pints of boiling water, which can scarcely be called "the cup that cheers," though it certainly does not "inebriate."

^b The whey is composed of sour milk and new milk, in the proportion of 7 to 9.

CASE II.—John Fox (aged thirty-one), admitted into the Meath Hospital at the close of 1860, suffering from constant thirst and diabetes, and requiring treatment for syphilitic nodes on the right scapula. Dr. Hudson and Dr. Stokes both considered that he had also well-marked symptoms of incipient laryngeal phthisis. He had contracted syphilis some years before in New York; and had been an intemperate liver in many ways. He attributed the commencement of "the thirst" to a carouse on Lager beer and brandy, in New York, during the hot weather; and on the morning following his debauch an intolerable thirst had seized him, from which he had never subsequently been free.

I made many observations on his case—the principal of which are contained in the following table; and, at the request of Dr. Stokes, I paid particular attention to the relation between his drink and urine, so as to test the allegation that, in similar cases, the urine sometimes exceeds the drink in quantity. Mr. Foot personally superintended the arrangements made for this purpose by Dr. Stokes and myself; and the utmost reliance may be placed on the recorded results, which show, as, indeed, might be expected, that the liquid *ingesta* always exceeded the liquid *ejecta*.

DIABETES INSIPIDUS.—*John Fox.*

MEATH HOSPITAL.

Date	Weight, lbs.	Drink, oz. 24 hours	Urine, oz. 24 hours	Sp. Gr.	Urea, grs. 24 hours	Urea, grs. per lb.	Phosphates		Sulphuric Acid, grs. 24 hours	Chlorine, grs. 24 hours
							Earthy	Alkaline		
1860.										
Dec. 13-14th	109.5	380	306	1003.54	600	4.5	11.78	16.80	—	—
Dec. 14-15th	—	260	260	—	—	—	—	—	—	—
Dec. 17-18th	—	310	280	—	—	—	—	—	—	—
Dec. 18-19th	—	260	230	—	—	—	—	—	—	—
Dec. 19-20th	113.5	227	210	1003.54	386	3.4	37.8	—	—	—
1861.										
Jan. 9-10th	116.5	—	240	1006.04	512	4.3	26.2	24.83	—	—
Jan. 16-17th	114.5	—	200	—	426	3.7	—	—	—	98
Jan. 23-24th	—	—	300	—	423	—	—	—	—	84.75
Jan. 29-30th	106	—	315	—	413	3.9	—	—	—	—
Feb. 6-7th	109.5	—	—	—	283	2.5	Fixed salts=132.6		—	—
Feb. 13-14th	—	—	140	1004.04	266	—	—	—	—	—
Feb. 29th	109.5	—	—	—	—	—	—	—	—	—
March 5-6th	—	—	220	—	303	—	—	—	—	—
March 14th	114.5	—	190	—	274	2.4	—	—	—	—

The urine was carefully examined for both sugar and albumen on each occasion of observation; but not the slightest trace of either of these substances could be discovered.

The quantities of urea, of phosphoric and sulphuric acids, and of chlorine, are natural, and fully accounted for by his food; and, in fact, the only abnormal constituent of the urine is the water, which appears to be simply the measure of his thirst. In this case excessive thirst was the prominent symptom, if not the only one connected with the diabetes. The term *Polydipsia*,^a therefore, appears to be a sufficiently suitable name, if any alteration be required in the well-known expressive and correct term—*diabetes insipidus*.

CASE III.—Ellen Reilly (Meath Hospital)—*Diabetes Insipidus, with Partial Hemiparesis*.—Oct. 5, 1861. Ellen Reilly, aged forty-three, was admitted into the Meath Hospital, into Dr. Hudson's wards, passing a large quantity of pale urine, of low specific gravity, containing neither sugar nor albumen. Cause of admission was not the diuresis, which was a moderate trouble to her, compared with a periodic, intermittent pain, which she experienced in the left side of the head and face, extending down the left side of the neck, along the trapezius muscle, to the scapula, accompanied with involuntary jerking movements in the fingers of the left hand. This pain she had been subject to for a year; and, during that period, had been free from it but one week, which temporary relief followed the application of six leeches and two blisters. The pain returned every morning; and was frequently attended with enlargement of the left eye, and puffiness of the affected side of the face.

She was the mother of eleven children, of whom one was dead; had lived twelve years in America; two years before present date she had attacks of rheumatic gout in the middle fingers of each hand; and, on other occasions, had three attacks of same affection in the toes of the left foot.

Oct. 11, 1861.—A few days after admission her weight, dressed, was 8 st. 4 lbs.; clothes weighed 15 lbs; weight, naked, 101 lbs.

Quantity of urine passed in 24 hours was 76 oz.; sp. gr. 1011; containing 404 grs. urea; no sugar, no albumen, no oxalic acid.

^a ἡ πολυδίψια νόσος. The well known line of Homer may be quoted in support of this term, which was first used for this disease by the illustrious Beccarel:—

καὶ κεν ἐλέγχιστος πολυδίψιον Ἄργος ἰκοίμην.—*Il. A. 171.*

She had no appetite at all; great thirst; constant constipation—no evacuation for three weeks; frequently disturbed during night to make water. Tongue dry, coated with white fur; pulse 80, natural in force and frequency; impulse and sounds of heart normal; no symptom of internal or external dropsy; nor has she ever had any.

Oct. 17th.—The hemicrania being very severe, 4 leeches were applied to the left temple. In a short time the pain and puffiness subsided; but returned, as usual, at 5 a.m. next day. The urine of the current 24 hours was 145 oz., pale and turbid, like whey; no albumen, no sugar. Urea=634 grs.; phosphoric acid=43·81 grs.

Her diet while in the hospital was:—

Breakfast,	tea, 1 pint.
Dinner,	soup, 1 quart.
Supper,	tea, 1 pint.

She seldom even tasted the allowance of bread; and did not use the portion of meat sent up in the soup.

Left hospital on 21st October.

CASE IV.—*Diabetes Insipidus.*—Mrs. Fannin (Meath Hospital).

April 29, 1862.—A married woman, named Fannin, was admitted into the Meath Hospital. She died suddenly on the fourth day after admission. On each of the two whole days during which she had been alive and in the hospital she had passed 9 quarts of urine; sp. gr. 1002; containing neither sugar or albumen.

The history of her case is, unfortunately, very deficient. Her great cause of complaint was an abdominal tumour which she had had for a long time. Its origin (as did her constipation, great thirst, and diuresis) dated from a fever she had nine years ago. The nature and cause of the tumour was revealed by the *post mortem* examination, which was made seven hours after death. The large intestine was immensely distended with accumulated fecal matter; while above the ileo-cecal valve, the small intestines, for a considerable distance, were filled with gas—accounting for the alternate clearness and dulness, on percussion, of parts of the abdomen, during life. The obstruction was caused by a tumour, the size of an orange, situated between the back of uterus and the front wall of the rectum; connected to each of these parts by fibrous bands, and pressing firmly on the latter. The tumour cut like India-rubber; its section was white and firm, with gritty particles through it.

The mesenteric glands connected with the colon were enlarged and hardened, having the size, shape, and colour, of cherry stones.

The kidneys were closely invested by thickened fibro-cellular tissue, detached with difficulty; the periphery of each presented irregularities of surface, depressions, and cicatricial marks, whitenesses, and thickenings of the fibrous capsule; the cortex of the left had many small cysts embedded in it, containing thick, viscid, yellow secretion. Both kidneys were enlarged—the right weighed 7 oz.; the left, 6½ oz. On section the left showed very little distinction in colour between the secreting and tubular portions; these parts were better marked in the right. There was a mixture of red striæ through the cortical and medullary structures in each; and the infundibula were thickly streaked with full blood vessels.

The heart was large, and weighed 22 oz.; but there was no appearance of valvular disease; all its cavities were empty; the pericardium contained 10 oz. of fluid; the liver and spleen were each large, but normal in appearance; the brain was only imperfectly examined; but it presented no obvious anomaly.

ART. XVI.—*Tertiary Syphilis.—Third Series;** the Growth, Progress, and Present State of Knowledge of Nervous Syphilitic Diseases.

By THOMAS READE, M.B., L.R.C.S.I., Belfast.

IN two former articles, published in this Journal, I endeavoured, by the recital of cases submitted to my treatment, to exhibit to the profession certain forms of nervous diseases connected with the advanced or later stages of constitutional syphilis; and by so doing, to direct attention to a serious error usually taught in our surgical schools—"that the brain was in no way susceptible of the constitutional poison of syphilis." This error is now, or quickly will be, universally exploded by a true interpretation of the facts bearing on the point, that have been adduced by many competent observers of the phenomena attending syphilis in its later stages.

As the first series of cases which I gave for publication, and denominated syphilitic meningitis, had been diagnosed and treated some years before the publication of Dr. Todd's important and valuable clinical lecture on the same subject, and as our descriptions of

* See Dublin Quarterly Journal, vols. xiii. and xxx., for First and Second Series.

the clinical facts nowise differed, and were the result of observations made separately, at distant places, and without inter-communion, they afforded strong testimony that there had been no inaccuracy or misapprehension on either part—in fact that the diagnosis had been sound and reliable.

A large measure of the notice my first paper has received I cannot fail to ascribe to the connexion of Dr. Todd's name with the same subject. His position, eminence, and high repute with his profession, secured readers, and an interest in every subject he placed before them. His precedence, no doubt, prepared the minds of those who are not chained to the chariot wheels of authority to continue their inquiry, indifferent to the place whence or from whom contributions to knowledge came, "*de augmentatione scientiarum*," a needful memorial for all physicians.

In order, clearly to submit the whole matter to the minds of those who study disease with the object to attain a secure and fixed diagnosis, I will commence my researches into the growth, progress, and advancement of our knowledge of syphilitic disease, connected with the brain and spinal marrow, by quoting the opinions and decisive judgments of John Hunter and Sir Astley Cooper, as they have been recorded.

"Some parts of the body are incapable of being acted upon by the venereal poison, as the brain, heart, and abdominal viscera; indeed the venereal poison does not appear to be capable of exercising its destructive influence on the vital organs, or those parts most essential to the welfare and continuance of life; but the bones, muscles, and skin readily partake of its malignant nature."^a

"But it would appear that some parts of the body are much less susceptible of the *lues venerea* than others, and not only so, but many parts, as far as we know, are not susceptible of it at all. For we have not yet had every part of the body affected; we have not seen the brain affected, the heart, stomach, liver, kidneys, nor other viscera, although such cases are described in authors."^b

I now proceed to detail, *seriatim* (by dates), the opinions of British surgeons, from their writings, who dissented from those authorities:—

^a Sir Astley Cooper's *Principles and Practice of Surgery*. By Alexander Lee, A.M., M.D., vol. iii., p. 140, 1843.

^b John Hunter's *Works*, by Palmer, vol. ii., p. 396, 1835.

Mr. Benjamin Bell was a cotemporary of John Hunter, and thus expresses himself:—"The diseases induced by the venereal virus, of which I shall give instances, are phthisis, asthma, rheumatism, dropsy, headache, epilepsy, and mania."^a

Dr. M'Dowell, of Dublin, in the *Dublin Hospital Gazette*, April, 1854, has contributed a case of great interest:—"Syphilitic Meningitis; Incomplete Paralysis; Disturbance of Mental Functions; Treatment by Mercury; Recovery. Philip Reilly, aged twenty-two, a sailor, admitted for rheumatic pains. Enquiry proved to be connected with syphilis. *Eight months* previously the patient contracted syphilis; the primary sore healed without treatment, mercurial or otherwise. Three weeks before admission the eruption made its appearance. Ordered R. *Misturæ Potassii Iodidi* ʒ i. ter in die. He improved rapidly for some days. January 10th.—On previous day patient affected with partial loss of power of the lower extremities and of the right upper extremity; during the night had been delirious; pupils dilated; vision impaired; there was more or less general paralysis; the face slightly distorted; the mouth drawn to the left side.

"*Treatment.*—Calomel and James' Powder in small but repeated doses. 13th. Ptyalism established; no distortion of face; speaks more distinctly. 14th. Pupils natural, contract briskly; still walks very unsteady. In February he left the hospital in perfect health.

"*Remarks.*—Though cases, such as the one last described, are not very frequently met with in practice, their nature and true import should be thoroughly understood and investigated, as on a correct interpretation of symptoms the success of treatment mainly depends.

"That cerebral symptoms are rarely of syphilitic origin may be inferred from their not being described in the best monographs on syphilis.^b

"Hunter states the brain is one of the organs exempt from the effects of syphilis. Ricord alludes to epilepsy, but not to any other form of cerebral affection, in connexion with syphilis."

^a Benjamin Bell, *Treatise on the Venereal Disease*, vol ii., p. 460, 1793. Dr. Budd, King's College Hospital, *Cases of Apoplexy Consequent on Syphilis*—*Medical Gazette*, 1842. Dr. Inman, Liverpool, *Cases of Paralysis Dependant on Syphilis*—*Medical Gazette*, 1843. Dr. R. B. Todd, King's College Hospital, *Clinical Lecture on Syphilitic Meningitis*—*Medical Gazette*, January, 1851. Dr. Thomas Reade, Belfast, *Notes on Syphilitic Meningitis*—*Dublin Medical Journal*, February, 1852.

^b John Hunter, Carmichael, Colles, Ricord.

I have extracted from this very characteristic and interesting case at considerable length, as it contains several important subjects of reflection:—1. How a simple and indefinite ulcer may enter and poison the system; the long interval between the poisonous infection and the constitutional irruption; the impotence of iodide of potassium in profound nervous attacks; the rapid restoration under mercurial action. 2. The expressed opinion on the rare occurrence of cerebral complications. There can be no doubt the cases must have been, at all periods, in existence, but overlooked and discredited, or believed to be independent intercurrent disease, but entirely distinct from syphilis, when that was plainly manifest; the character of the infecting ulcer is still unknown—the complications of constitutional nervous disease only newly entered on as a study.

In December, 1855, Dr. M'Dowell, in *Dublin Hospital Gazette*, gives another case of syphilitic meningitis in which he seems to be more satisfied of the existence of a pure meningitis, arising from the fugitive character of the symptoms; the recovery showing the restoration of the functions of all the parts previously impaired. The case.—Pat. Connor, aged twenty-two, April 12th, 1854. Syphilitic paralysis affecting sensitive portion of right fifth nerve and third nerve of the same side:—"I believe we have here a syphilitic affection of the fibrous membranes enveloping these nerves, or of the fibrous periosteum lining the foramen through which they pass. The patient gives the history of syphilis, and other symptoms which are referable to this taint; we find that his mind was affected, that his memory was much impaired, and that there was a listlessness about him, a stupidity that we can now see was not natural to him. Since the patient was a second time under observation, as confirmatory of this opinion, that he suffered severely from nocturnal pains, and that a tender puffy spot, as large as a crown, existed over the internal aspect of the right occipital bone—in fact, syphilitic periostitis. On this supposition he was treated."

That the partial paralysis in this case did not depend on central disease of the brain, or intercranial tumour, is proved by the progress of the case, you observe:—"The lesion of the fifth nerve has disappeared; the levator palpebræ is no longer paralysed; corresponding with the gradual disappearance of the partial paralysis the general health has much improved; his apparent stupidity has disappeared, he is cheerful and intelligent, his memory is no longer defective, and the periosteal pains and swellings have also vanished."

The next notice I find in connexion with this subject, is related

by Mr. B. Wills Richardson, in *Dublin Hospital Gazette*, April 1856. A case of meningitis, osteitis, and periostitis. It was a female, of abandoned life, an inmate of the South Dublin Workhouse. She broke up, cachectic from neglect, and died in hospital. The following were the *post mortem* evidences:—"On removing the scalp, a small carious node was perceived in the left parietal bone, corresponding to the situation in which she complained of tenderness during life; when the calvarium was taken off, the dura mater was seen to be very vascular, and perhaps more coherent to the inside of the skull than natural. On detaching this membrane from the parietal bones, we found the greater part of the latter very vascular, rough, and porous. In the part that corresponds to the node, the bone is thin, blanched, and diaphanous. The whole of the arachnoid membrane was excessively opaque, particularly that portion investing the external surface of the hemisphere of the brain; the pia mater was very much congested, and the brain itself was slightly vascular."

This case, and *post mortem*, afford, I consider, a fair example of the unchecked course of syphilitic external periostitis, with the same affections of the fibrous membrane lining the skull and investing the brain, involving the arachnoid and pia mater, and still further engaging the surface of the brain; a degree further of advance and the depth of cortical substance would exhibit purulent deposit and softening. Such I believe is the ordinary course and progress of these cases unless arrested by specific treatment; at the same time there are surely other forms of inter-cranial syphilitic disease or deposits, on the dura mater, as well as in the body of the cerebral matter.

In order of succession by date the next reference will be found in the *Dublin Quarterly Medical Journal*, for November 1860—Cases of Tertiary Syphilis, by Thomas Reade. Eleventh article.

It contains a series of nine cases, all being in the course of private practice, which has conferred the signal advantage of having a full knowledge and observation of nearly all till their decease, with the alternation, relapses, and in several of apparent perfect restoration. On the retrospect of these nine cases I entertain a very strong conviction that two of the cases, number one and three, now deceased, lost their lives by neglect; all the cases of far less vigour of constitution, and of less promise, have weathered the storm after years of renewed attacks, by prompt submission to treatment. The opulent classes are exempt from the harassing occupations, privations, and the depressing agencies which invade the usual

denizens of hospitals, causes which induce an associate cachexy; and recovery is obstructed by the tardy and involuntary resort to hospital for aid.

The latest contribution in Dublin has been from Dr. Duncan. *Cases of Syphilitic Insanity and Epilepsy*.—*Dublin Quarterly Journal of Medicine*, February, 1863.

I shall now seek out the evidences by which we may determine in what degree, and at what time, the medical faculty of London have participated in this new and important inquiry.

The first publication that I find in the London periodic medical literature is in the *Medical Times and Gazette* for June, 1861—*Reports of Hospital Practice*. By Jonathan Hutchison and J. Hughlings Jackson, M.D. *Syphilitic Affections of the Nervous System*.

"*Cases of Epilepsy Associated with Syphilis*.—The following cases of epilepsy, in each of which there is a clear history of syphilis, will no doubt be interesting to our readers. Although this subject has received much consideration from several English observers, amongst whom we may mention Dr. Graves, Dr. Todd, Dr. Reade of Belfast, and Dr. Inman; yet the connexion between the two affections is not yet so widely recognised as is desirable. Case I.—Syphilitic caries of left parietal bone; convulsive attacks chiefly of the right side, unattended with loss of consciousness, but followed by hemiplegia of the right side; relief by trephining; death; autopsy. The case was a patient of Mr. Bryant's, in Guy's Hospital. Syphilitic deposits were found in the testes, liver, and spleen. Case II. is from Dr. Todd, and Case III. from Dr. Reade, Belfast. Case IV.—Under care of Mr. Hulke, November, 1858. Node on the margin of the orbit, causing diplopia, displacing the eye-ball; cure by the iodide of potassium; afterwards again treated for epileptiform convulsion; persistent fixed pain over parietal bone; recovery under iodide of potassium; remains well.—February 1861.

The cases recorded in the *Medical Times and Gazette*, by Mr. Hutchison and Dr. Jackson are very numerous—supplied from many sources; extracted from publications and reported by many physicians—several London hospital surgeons, so that there is now no lack of labourers. Several of the cases are of great interest, independent of the recognition of the nervous syphilitic disease in the individual of the primary contagion, and showing its inroads upon the eye and ear—all the nerves connected with sensation, as well as

motion—in fact every cerebral nerve. Mr. Hutchison has traced to hereditary syphilis certain characteristic marks upon the teeth, the cornea, and iris; and also the sequence of epilepsy, paralysis, and idiocy, to the inherited poison transmitted at birth.

It would be now useless to follow up in detail cases so numerous, but their number now show how strong and secure a hold has been made on the mass of the physicians and surgeons of London. None seem to uphold the opinion of Hunter and Sir Astley Cooper; it can only excite our wonder how they prevailed, blindfolding men who prided themselves on their clear and independent powers of observation, and whose abilities, as exhibited by their writings, show at the same time, how just was that high repute they had attained in their generation; and that the highest faculties are still unequal, subject to error, prejudice, and unconscious delusion.

Doctor Brown-Séquard, in one of his lectures on diseases of the nervous system, in addressing his class in reference to paralysis of any of the cerebral nerves, distinctly states, that if the patient had only had a primary ulcer, that testimony would be sufficient to satisfy him, and decide on treating the case as syphilitic. I have in the course of practice, seen cases, and treated them, that would scarcely sanction so sweeping and wide a proposition. We must always bear in mind, that the syphilitic patient has no immunity from intercurrent disease, which is due to other and different causes. We may meet with cases of Sir C. Bell's paralysis of the portio dura, in a man who has had syphilis; yet it may be unnecessary to give specific treatment; tumours within the skull may not be syphilitic. It is not uncommon to employ mercury in those cases, but its use is purely empirical, and reflects no credit on diagnosis.

The task which I have imposed on myself would be incomplete and imperfectly executed did I not apply the same tests by examination of the growth, progress, and present state of knowledge, as shown by publications in the capital of France, on the same interesting subject—the nervous diseases excited in the human frame by the syphilitic poison.

In order to accomplish this object I am necessarily guided to the lectures of M. Ricord, till lately surgeon to the Hôpital du Midi, who, for many years, has attained great celebrity from his experimental investigations into the primary symptoms of syphilis, their nature, and properties, as affecting the human system.

These labours attracted to the Hôpital du Midi a large class of pupils, to many of whom this eminent surgeon imparted his own

ardour and scientific spirit of inquiry. M. Zambaco, one of his pupils, an *interne* of the Hôpital du Midi, has obtained the distinction of Civrieux Prize of the Imperial Academy of Medicine of Paris, for his essay—*Des Affections Nerveuses Syphilitiques*—published in Paris, 1862.

The work is very elaborate and comprehensive, containing a copious reference to many ancient and modern writers on the subject, with numerous cases illustrative of the various forms of the disease, and highly philosophic reflections appended to each case, which renders the whole work an instructive study for all who hereafter may seek a comprehensive knowledge of the subject.

As the majority of the cases were treated in the Hôpital du Midi, under the charge of M. Ricord, the book may be regarded as the embodiment of the doctrines and experience of M. Ricord up to a very recent period; therefore, I may assume, in the work of M. Zambaco I am at the same time eliciting the opinion, on each topic, of M. Ricord himself.

Although cases had been reported by different physicians in France, before the labours of M. Ricord had been published, showing that nervous syphilitic diseases had not passed wholly unobserved, yet the mind of the profession appears not to have distinctly accepted such diseases as recognisable and having a distinct and separate entity, till M. Ricord's own mind slowly opened to its admission. In England, until after the writing of Dr. Todd, it had not assumed a substantial acknowledgment; and, I think, there is strong reason to infer the ignorance of Dr. Todd that any such opinion had prevailed, with a known authority in France; otherwise, I am satisfied Dr. Todd would, in his clinical lectures, have noticed a confirmation of a diagnosis of disease then so novel, yet so important.

I now transcribe from the lectures of M. Ricord, published in the *Lancet*, January, 1848, on the Action of the Osseous Affection (tertiary syphilis) on the Neighbouring Parts:—

“When the tumour is situated at the base of the cranium there is paralysis of the fifth pair; but the motor-oculi may also receive compression; and when this happens all the recti muscles, except the external, are paralysed.”

He then goes on to notice the effects of similar pressure on the seventh and eighth nerves. To the following passage of his

lectures I specially ask attention:—"Another consequence of this species of compression is *epilepsy*; but this otherwise formidable disease is, in such cases, easily got rid of. The fits commonly seize the patient when the osseous growth producing the compression gets more considerable and irritating.

"I must not omit to mention paraplegia, as a casual effect of tertiary syphilis in the bones. The nervous symptoms are, then, the result of an osseous lesion; which latter begins by nocturnal pains, and develops very slowly. Paraplegia may also be produced by a cutaneous elastic tumour."

With these cursory and passing remarks on epilepsy and paralysis he closes his lectures on these momentous derangements in connexion with tertiary syphilis—constituting presumptive evidence that, at the time of his delivery of this course of lectures, their full gravity and importance had, as yet, not impressed him with that force and significance that we find he subsequently became actuated by, as is evinced by the deep and careful study and attention shown in the elaborate care that he gave to the numerous cases he assembled and treated in the Hôpital du Midi—the cases which mainly supplied M. Zambaco with the materials on which he has based his excellent Prize essay. The entire of the reasonings and proofs of his positions are sustained by reference to ninety-one cases, collected by M. Zambaco from the Paris hospitals and Maisons de Sante almost entirely, but pre-eminently the Hôpital du Midi.

I conclude from the passing and cursory manner in which M. Ricord glances at epilepsy and paralysis, that he had not then examined the subject with the care he subsequently bestowed upon it.

I have analysed the dates of the treatment of the ninety-one cases,* and I find that seventy-seven of the whole number had undergone treatment since 1852, inclusive; thirty-four of these in 1858 (nearly all in the Hôpital du Midi); of the fourteen remaining four have no date; one was 1825; one 1845; the nine remaining scattered through Parisian and other French hospitals.

The conclusion I come to is this, that the subject of nervous syphilitic diseases was not taken up, as a stubborn reality, either in

* I have uniformly adopted the latest date of dismissal or the decease when ascertainable; the reason is obvious—the history of cases often embrace many years.

England or France, till after the notice it acquired in 1851 and 1852.

I can confidently appeal to a critical examination of the cases, as published by M. Zambaco, that all my comments are in no degree overdrawn, and are adduced with no other purpose except that of an historic record, connected with an advancement in our real knowledge of a most serious malady still involved in great perplexity and doubt, after 200 years of inquiry and observation; to offer anything except respect to the high talent, rare ability, and perseverance which M. Ricord has used in his long study of an intricate disease; and to M. Zambaco, my deference and admiration of the manner in which he has executed his work, already honoured by the Imperial Academy of Medicine with the Civrieux Prize.

M. Zambaco's comprehensive work, on syphilitic nervous affections, includes very nearly the entire roll of our nosological catalogue. His cases are ranged under the different heads of morbid action into which he has divided his essay.

He first describes a form of syphilitic disease, "*Nervopathic Diathesique*." 2nd. "*Des Neuralgies Syphilitiques*." 3rd. "*Des Troubles de la Mobilité par Diathese Syphilitique*"—in fact, Paralysis of Motion. 5th. "*De quelques Troubles de la Sensibilité et de la Mobilité, bornes a une seul Membre et Consecutifs a la Compression des troncs nerveux, par des Tumeurs Syphilitiques*." 6th. "*Des Convulsions Syphilitiques*." 7th. "*D'une forme speciale de Paralysie Generale Syphilitique non decrite et ressemblant parfois a la Paralysie Generale des aliens*," 8th. "*Des Troubles de la Sensibilité Generale*." 9th. "*De l'Amaurose et de l'Amblyopie*." 10th. "*Des Odorats Occasionnes de la Syphilis*." 11th. "*Des Troubles du Gout*." 12th. "*Des Paralysies sine Materiâ*." 13th. "*Des Fievres Intermittens Syphilitiques*." 14th. "*De la Choree Syphilitique*." 15th. "*De l'Hysterie Syphilitique*." 16th. "*De Epilepsie Syphilitique*." 17th. "*Des Troubles Intellectuels que la Syphilis peut producer*." 18th. "*De l'Asthme Syphilitique*."

I thus relate this long roll of syphilitic nervous affections in order that they may receive the attentive consideration that the high position and repute of the narrators of those cases entitle them to. Experienced and skilful observers, with abundant opportunity of seeing and contrasting diseases, are alone capable of describing the many diagnoses involved in the matter discussed in the course of this work.

On such sections as I have been conversant with I have already

published, as on syphilitic paralysis, paraplegia, epilepsy, amaurosis, neuralgia, and syphilitic quotidian. In my second contribution on tertiary syphilis, the ninth case, the very first which directed me to the untaught and rare effects of constitutional syphilis, it was, as in M. Zambaco's essay, a case of quotidian syphilitic intermittent. I am now, for the first time, supported in my strange and fortunate diagnosis by that section of the essay on syphilitic intermittent fever. The diagnosis was made in 1838; the patient was on the very verge of the grave, when the decided diagnosis, with the immediate use of mercury by inunction, proved the most potent restorative, as well as the swiftest I ever witnessed in the range of our pharmacopeia. The gentleman is now in perfect health, and holds all but the highest military title.

A careful perusal of the cases reported as treated by M. Ricord, at the Hôpital du Midi, in tertiary forms of syphilis, will not show the avoidance and repugnance to the use of mercury in that stage of the disease usually supposed, and that perfect confidence in the unassisted specific power of the iodide of potassium. It will be found that what he calls the *mixed* treatment is that in most cases relied on.

Besides an endeavour to show the mode in which syphilis affected the nervous system in the later periods of constitutional contamination, I wished equally to prove that even when the bones and their coverings were involved, yet, mercury not only could be employed with safety, but even became sometimes the sole reliance for the rescue of life from impending death. The practice of this great master of his school in Paris confirms, and I think, decides a momentous question. Iodide of potassium is an acquisition of immense value in aid of the treatment of long protracted (I speak of a disease prolonged through years) cases, but it is not sufficient, and cannot free the system of the poison—it cannot supply the place of mercury.

As M. Zambaco has, in the course of his work on syphilitic nervous affections, several times referred to the cases published in this Journal in 1852; and, as I believe, he has tried the cases by a law of criticism over-stringent, and not carried through in the same rigid measure as regards himself, before I make comment on his comments I feel it is but justice to translate the passages from the book.—*Anatomie Pathologique*.

“Several physicians believe that they are authorised sometimes to

suspect a syphilitic meningitis, but we know not on what this diagnosis is based, to which no autopsy has given its sanction. It is thus Mr. Reade reports, in a special article, several cases which he designates syphilitic meningitis. The patients whom he cites were evidently under an outburst of the diathesis—were affected by divers cerebral accidents, which a specific treatment caused to disappear. There occurred epilepsy, paralysis, or paraplegia. The pathological anatomy has in no case been described by this physician. We contest the right that he assumes, to give the title of syphilitic meningitis to these affections.”^a—Page 52.

The second notice and comment is as follows:—From the context I think it will be perceived that the name of Dr. Todd, with which the paragraph begins, is a mistake, as the comment refers to an extract from the same *Dublin Quarterly Journal*. It is this:—“Paralysie du Mouvement.”—Zambaco, page 184.

“Todd has cited several cases of syphilitic cerebral disease, but without an autopsy he is not even justified in using the title “meningitis” which he confers on his cases. These cases induce an exceeding desire that their author had given us a little more of detail. The following is a short extract from one of his cases, which is related as No 2. Another will be found in our chapter on mental alienation.”

Then follows his translation of Case 2, from this *Journal*, February, 1852:—

“Syphilitic meningitis; mental incapacity; incoherence of ideas; propensity to suicide; paralysis.—A gentleman, twenty-six years of age, was attacked with hemiplegia; his want of intelligence did not permit him to give an account of his state. This patient had before had a deep syphilitic ulcer of the throat. Treatment by iodide of potassium restored him. But he was struck anew with paralysis and a double syphilitic iritis. A mercurial treatment made all these disorders, physical and intellectual, rapidly to disappear. According to our author a tumour of the dura mater was the cause of this cerebral irritation.”^b

^a *Dublin Quarterly Journal of Medicine*, February, 1852.

^b The *Dublin Quarterly Journal of Medicine*, February, 1852. Vol. xiii., by Thomas Reade.

In confirmation of the correctness of my assumption that Dr. Todd's name was introduced by a mistake, in the next page, 186, he refers to his Clinical Lecture, *Medical Gazette*, Jan., 1851. It refers to the *post mortem* examination of one of Dr. Todd's cases, exhibiting ramollissement of the cerebral matter, and of course impugning the nosological designation "meningitis." He refers to Dr. Inman's cases, *Medical Gazette*, July, 1843, and likewise impugns them, winding up with this conclusion:—

"Thomas Reade has published several cases of cerebral diseases, which appear to have been determined by syphilis. But we find nowhere a justification for the appellation of syphilitic meningitis which he has conferred upon them, since he has not made a single autopsy. They ought, consequently, to remain in the domain of facts, provoked by syphilis, without affecting to fix the precise alteration or diathetic lesion to which they appertain. However, we find a case* in the article cited, most interesting, entitled 'Syphilitic meningitis; epileptic attack; intermittent cranial neuralgia; intellectual derangement; paralysis of sphincters.'

"We propose to ourselves to transcribe this at the end of the chapter on mental alienation, because the disorders of the mental faculties are the most important in this malady above any other symptom.

"The existence of meningitis as an isolated form of affection has never been demonstrated, and the English authors who thus speak have never shown the proofs by an autopsy."

M. Zambaco takes exception to the nosological designation "syphilitic meningitis," as not founded, and proved by a necroscopic examination. In an exact science no doubt his rule would be valid, but in pathology it can never be doubted that in many diseases, external as well as internal, resolution takes place and, after recovery, leaves no trace whatever that there had been pre-existing disease. For example, some phlegmons (not terminating in abscess), erysipelas in external parts, also gout and rheumatism. Bronchitis and pneumonia may be adduced as internal diseases which rarely leave any tangible evidence of their existence. Such, I believe, to be the phenomena of syphilitic meningitis; and while it still

* Case No. III.—The Dublin Quarterly Journal of Medicine for 1852—by Thomas Reade.

remains merely a tumefaction of the dura mater—a diffused internal node pressing on the arachnoid, pia mater, and surface of the cerebrum, it is still perfectly curable—is a true meningitis, and only by want of specific treatment proceeds to destructive disease, involving the cerebral matter. Consequently there could, in ordinary circumstances, be no *post mortem* in syphilitic meningitis, death being the attendant only on long neglect, or erroneous diagnosis and treatment. The three cases, published by me in 1852, I have strong reason to believe, were truly typified by the denomination of syphilitic meningitis, from the perfect restoration that all three had attained prior to the publication. But it will be found by those who refer to my second series—*Dublin Quarterly Journal*, November, 1860, both No. I. and III., had succumbed to the fatal diathesis; and, I believe, with destructive disease of cerebral matter in both. No *post mortem* was permitted in either. Case No. II. informs me that he has enjoyed perfect health since he left my care. I may add, it is no irrational inference, that as we see nodes on the tibia and other bones—as the parietal, frontal, and occipital, disperse and disappear before our eyes under specific treatment, so it may be conceived, without any strain on the imagination, that the same process may be perfected within the cranium as that exhibited on the outward aspect of the body.

M. Zambaco, in his preface, admits, as he expresses it, “*de la maniere la plus positive*,” that functional perversion may exist without any corresponding organic lesion; and his cases of paralyzes syphilitiques, “*sine materia*,” attest the fact by their autopsy. It would be wearisome to pursue this subject, and would involve more space than would be reasonable and fair in a periodical journal.

But lest I should be misunderstood by a protest against any portion of the author's criticism, it is by no means inconsistent with my appreciation of a most comprehensive and valuable work, which will, I hope, early appear in an English translation.

The following may be offered as the inference and conclusion from the substance and import of this retrospect:—

1st. That the opinions of John Hunter constitute an epoch in the history of syphilis, guiding a great majority of practitioners in surgery for many years.

2nd. That these doctrines ignored the complication of the brain and nervous system.

3rd. That the treatment of syphilitic primary ulcers without

mercury, and Carmichael's promulgation of plurality of poisons, formed a second epoch.

4th. That the introduction of hydriodate of potass as a specific and substitute for mercury, in every stage of syphilis, quickly followed on the new doctrine.

5th. That the next remarkable event was M. Ricord's experiments by syphilitic inoculation.

6th. That although practitioners, both in England and France, were cognizant of the complication of the cerebral and nervous system in tertiary syphilis, yet no decisive impression, on the minds of the profession generally, was shown until after the publications on the subject in 1851 and 1852.

7th. That M. Ricord, like Carmichael and the non-mercurialists, seem to have been so intent on their investigations into the primary and secondary forms of the disease, as to have nearly or entirely overlooked the important and formidable complications of the later periods.

10th. That M. Ricord, by publication in 1848, referred to certain forms of paralysis, epilepsy and paraplegia, connected with tertiary syphilis.

11th. That the division of the practice of medicine into surgery and medicine mainly retarded the progress and advancement of true knowledge of the nervous diseases elicited by constitutional syphilis. Nervous maladies occurring in those suffering manifestly from syphilis were regarded as intercurrent or separate diseases, and transferred to the physician for treatment.

12th. That the proper and true education of the surgeon being now understood to include the entire curriculum of the physician, a measure of competence is attained to investigate the phenomena, not in parts but as a whole, and surgeons are thus fitted to apply all the sources of science to enhance the sagacity acquired by dealing with understood and tangible disease.

13th. That the experience collected by so many observers, and now widely published, has transferred the complication of the brain and nervous system in tertiary syphilis from the mysteries to the facts of medical science.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

1. *A Treatise on the Continued Fevers of Great Britain.* By CHARLES MURCHISON, M.D., Fellow Royal College of Physicians, Senior Physician to the London Fever Hospital.
2. *Lectures on the Distinctive Characters, Pathology, and Treatment of Continued Fevers, delivered at the Royal College of Physicians, London.* By ALEXANDER TWEEDIE, M.D., F.R.S., &c.

(Continued from No. lxxi., p. 200.)

RELAPSING OR FAMINE FEVER.

ALBEIT Hippocrates described a disease which appears to answer to our relapsing fever, the earliest account upon which reliance can be placed, according to our learned author is that which is found in *Rutty's Chronological History of the Diseases of Dublin*. He describes a fever, which prevailed in Dublin, in 1739, attended with intense pain in the head, terminating in four, five, or six days, sometimes in nine, and commonly in a critical sweat; the patients were subject to relapse even to a third or fourth time, and it was far from mortal. This fever was altogether without the malignity of typhus; and, as proof, he says:—"I was assured of 70 of the poorer sort at the same time in this fever, abandoned to the use of whey and God's good providence, who all recovered"

Barker and Cheyne, writing of the epidemic of 1817-19, observe:—"Certain it is that the fever in 1801 very generally terminated on the fifth or seventh day, by perspiration, and that the disease was then very liable to recur, and that the poor were the chief sufferers by it."

Dr. O'Brien, describing the epidemic of 1826, in Dublin, tells us:—"There were two fevers—the ordinary typhus, or fever of the old constitution, which was very fatal; and a fever of the new constitution, lasting only a few days, and seldom fatal, but frequently relapsing."

It appears the epidemic in Upper Silesia ("die hungerpest") which followed the famine years of 1846 and 1847, was the same disease (relapsing fever) as our own; the investigations of Virchow and others, in point of fact, leave no doubt on the subject. A paragraph is quoted by Dr. Murchison, from a review of this Silesian

epidemic, which we remember having read before. We refer to it now for the purpose of protesting against the conclusions drawn by the reviewer, and endorsed by our author, as to the close analogy between the inhabitants of these Prussian provinces and the Irish. He tells us:—"The Silesians have preserved their language and their religion, though severed from their nation for 700 years. The schoolmasters sent amongst them have learned Polish, but have not taught German; the Protestant teachers have only excited among them a more fanatic zeal for their Catholic priests. Amidst the clash and tumult of modern progress they remain silent and unmoved in their antique isolation." After informing us that, like the Irish, they live on potatoes, with the addition of sauerkraut, and that their dwellings are the prototypes of the Irish cabins, we learn that the parallel does not end here. "The relations between landlord and tenant appear to be on as false a footing as those which exist in Ireland, only that here a still more oppressive state of servitude is to be found. The Silesians, like the Irish, are excessively intemperate."

It may be very presumptuous, but we flatter ourselves we, who live in Ireland, know a little more of Ireland than the English reviewer; and we are utterly unable to see the analogy between the Poles who have retained their language and the Irish who have not retained theirs; nor can we see the slightest resemblance between the landlord and tenant relations. The Irish landlord is *not* an oppressor, and the tenants are *not* in a state of servitude. The Irish are *not* "excessively intemperate." So far from "remaining unmoved in their antique isolation," like the Poles of Silesia, the Irish are making rapid strides in material improvement.

But to return from this digression to the more agreeable and congenial task of giving an analysis of Dr. Murchison's account of relapsing fever.

ETIOLOGY OF RELAPSING FEVER.

The mean age (according to the tables of the London Fever Hospital) is—for males, 22·98; females, 26·01. The youngest case was a female, aged two, and the oldest a man, aged 74; the proportion of the young to the aged is greater than in typhus; relapsing fever being communicable, over-crowding favours its propagation.

The proofs of the communicability of relapsing fever are similar to those which are adduced for typhus. Dr. Craigie, of Edinburgh,

Virchow are opponents of the generally received opinion. In typhus, one attack of the disease does not exercise a protecting influence. In all epidemics it has been observed that persons have been attacked more than once. Dr. Murchison thinks that, as epidemics of typhus and relapsing fever coëxist, it may be assumed that the conditions under which both diseases originate are similar; these conditions are destitution and over-crowding.

PATHOLOGY OF RELAPSING FEVER.

It was not until 1843 that the distinction between relapsing fever and typhus was established; and to Dr. Henderson, of Edinburgh, is due the credit. Subsequent observers, however, of whose accuracy there can be no question, have not confirmed Dr. Henderson's statement that the two fevers are never found in the same person or family.

Dr. Alison saw two cases of typhus, "with the characteristic distinction, brought from the same room in which a succession of relapsing cases had occurred at the same time." Dr. Henry Kennedy has seen cases of relapsing fever and typhus, not merely in the same person, but even in the same bed.

In many epidemics, when both fevers prevail, we may find—first, relapsing fever; then relapsing fever with typhus; and, finally, typhus alone. Dr. Murchison does not think that this circumstance justifies the conclusion that the two fevers are identical." He says:—"The statement remains uncontroverted that in all cases where it can be proved to have been imported into a locality by a single case, typhus has produced typhus, and relapsing fever relapsing fever."

A remarkable difference between the two fevers exists in the power which typhus possesses of conferring immunity from second attacks—a power which does not belong to relapsing fever. A peculiar odour has been observed to be exhaled from the bodies of persons labouring under relapsing fever. Dr. Kelly, of Mullingar, compares it to "burning straw with a musty odour."

SYMPTOMS OF RELAPSING FEVER.

We have, in almost every case (being, unfortunately, endowed with a very acute sense of smell), noticed a peculiar odour, and shivering during the sweating period. The suddenness of the seizure is remarkable in relapsing fever, no symptoms premonitory of the disease in many cases occurring. Chilliness, rigors, frontal headache, &c.

lumbar pains; cold stage, often followed by sweating on second day, without any intermediate hot stage, and without relief of the headache. After the initiatory cold stage, or after the sweating if it takes place, skin hot and dry (102° to 107° Fahr.); pulse from 100 to 140, or even upwards. In the greater number of cases we have observed the pulse did not rise above 130. Tongue, in some cases, white and loaded, or dry; but often presents a dry streak down the centre. Thirst, anorexia, constipation, nausea, vomiting, urine high coloured or containing blood; sleeplessness; mind generally unclouded, but occasionally delirium on the fifth or sixth day. The sudden cessation of the fever symptoms occurs, in some instances, as early as the third day; in others it is postponed to the 10th. In the epidemic of 1847 we found that the fever generally ended on the seventh or eighth day. The sudden fall in the pulse is noteworthy—often from 140 to 70; but we have known it, in the interval between the primary fever and the relapse, come down to 60, and in some cases to 50. Dr. Murchison names the 14th day from the commencement of the fever, or the seventh from the crisis, as the usual time for the relapse. The fever generally returns with all the symptoms which were present in the first attack, in some cases in an aggravated degree. The duration varies from one to four days. Our authors consider three days the ordinary duration, but in our cases it was four days. Like the termination of the first, the second fever is followed by sweating, which we have known to last from one to five hours, the patient being literally drenched. A second relapse sometimes occurred, and even a third or fourth; but there may be no relapse. When relapsing fever and typhus are contrasted, the difference in mortality is most striking. Dr. Murchison says that in relapsing fever it rarely exceeds one in 25 or one in 50; and we may, from our experience of the epidemic of 1847–48, place it still lower. The greater number of our cases had no eruption, but many presented spots like flea-bites; and, indeed, Alison thought that the spots sometimes “originated in flea-bites and extended by little ecchymoses;” but, as our author observes, they cannot always be thus accounted for. The spots differ from the petechiæ of typhus in not being developed in the centre of exanthematous patches. There is no specific day for their appearance; they are more frequently met with in primary fever than in the relapse, and in jaundiced cases they are rarely absent. We have seen some spots deep purple, or almost black, being doubtless connected with a diseased state of the blood.

The eruption which prevailed generally during the epidemic was most frequent amongst the destitute classes, persons in better circumstances passing through the fever without spots.

We have observed the spots to disappear, suddenly, at the termination of the first period of the fever. The presence of sudamina in this fever has been particularly referred to by Dr. Ormerod in the epidemic of 1847, in London; and we noticed the eruption at the same time here. It was confined to the front of the body in our cases.

Every physician who has written on epidemics of relapsing fever mentions the frequency of jaundice; but much difference of opinion prevails regarding the importance to be attached to its presence—some looking on it as “a very trifling occurrence,” and others again as a most formidable symptom. The fatal cases which came under our own notice were jaundiced, and death was preceded by coma; but, on the other hand, we have had very many cases of relapsing fever presenting this complication which ran as favourable a course as if it did not exist. The enlargement of the spleen is one of the most remarkable symptoms in this disease.

DIAGNOSIS OF RELAPSING FEVER.

Dr. Murchison's observations on the diagnosis of relapsing fever are very valuable. The diseases with which it may be confounded are—typhus, enteric fever, febricula, remittent fever, yellow fever, incipient small-pox, bilious headache, and cerebral diseases. From typhus it is distinguished by the suddenness and severity of the primary rigors—the absence of the heaviness or stupidity of countenance—the greater heat of skin, and the absence of the typhus rash—the frequency of jaundice, of vomiting, and of tenderness and enlargement of the liver and spleen—the presence of epistaxis and other hemorrhages—the rarity of delirium and other cerebral symptoms—the invariable occurrence of abortion in pregnant females—the common occurrence of ophthalmia as a sequela—the subsidence of the pyrexia, on the fifth or seventh day, by a copious critical sweat—the occurrence of relapse—the difference in the rate of mortality.

Relapsing fever, in its severe forms, and when associated with jaundice, may easily be mistaken for true yellow fever. In 1826, Drs. Graves and Stokes reported cases of yellow fever in Dublin; and these, Dr. Murchison says:—“Appear to have been relapsing fever, complicated with jaundice and cerebral symptoms; and the

fact that they differed from true yellow fever was pointed out, at the time, by O'Brien."

"Relapsing fever differs from yellow fever in the following particulars:—Yellow fever exhibits no predilection for the poor and destitute, but attacks all classes alike. Yellow fever attacks the same individual but once. Relapsing fever confers no such immunity from future attacks. Jaundice is an almost constant symptom of yellow fever; it occurs in less than one-fourth of the cases of relapsing fever. Yellow fever is a most mortal disease; relapsing fever is rarely fatal. Death in yellow fever is generally preceded by the 'black vomit,' which, in relapsing fever, is so rare that some of the most experienced observers have doubted its occurrence. The yellow fever of the tropics never follows the peculiar course of relapsing fever."

In looking on relapsing fevers as a disease which rarely proves fatal, it must not be forgotten that certain grave complications, such as profuse hemorrhages, cerebral symptoms following suppression of urine, syncope, peritonitis, dysentery, erysipelas, &c., &c., lead to a fatal termination.

We shall not pause over the treatment of relapsing fever, but merely remind our readers of the fate of "the poorer sort abandoned to whey and God's good providence."

Dr. Murchison tells us that it is important to bear in mind that most cases of relapsing fever recover without treatment of any sort. This is perfectly true; but there are cases which require treatment, and our author gives very judicious advice for our guidance:—The regulation of the bowels; avoiding active purging, in consequence of the risk of dysentery or diarrhea supervening; sponging the surface of the body; supporting the vital powers, remembering the liability to fatal syncope. In the jaundice, nitro-hydrochloric acid, with nitre or turpentine, as recommended by Dr. Corrigan. In the greater number of cases alcoholic stimulants are uncalled for, but in some few they are required, even early in the disease.

TYPHOID, ENTERIC, OR PYTHOGENIC FEVER.

Dr. Murchison proposes to denominate this fever pythogenic fever. We incline to the term enteric as the least objectionable of the numerous designations which it has received, although the name originally given by Bretonneau, dothineritis, has lately been revived on high authority.

HISTORY AND PATHOLOGY OF ENTERIC FEVER.

The historical account of this disease is full of interest; but we must pass over the early periods, and come to modern times. In 1727, Strother, in an account of the epidemic typhus of London, speaks of "the Lent fever as a symptomatical fever arising from an ulcer fixed on some of the bowels." In 1746 Sir Richard Manningham described enteric fever under the name of febricula: the symptoms—a red, often dry tongue, abdominal pains, diarrhea, hemorrhages, &c., &c. He recommended cordials, and condemned bleeding. Sir John Pringle distinguished enteric fever from typhus. He called it *miliary fever*; and stated that:—"It was incident to people of all ranks, and living in the best air; whereas the *malignant* fever is scarce to be seen, except among the lowest people, crowded together in close and foul places, such as in military hospitals, jails, and transport ships." Roderer and Wagler gave an account of a fever in Göttingen under the name "*morbus mucosus*."

In Ireland Rutty alludes to a fever generally occurring in autumn, of three or four weeks duration, or even longer, with diarrhea and hemorrhages. Macbride also (1772) distinguished the *febris nervosa* (a protracted fever, with diarrhea) from the *putrid continued fever*. In 1804 the subject was investigated in France by Prost, who was followed by Broussais, Petit, and Serres; and by Cruveilhier, Andral, &c.

Brettonneau first showed that the solitary and agminated glands of the ilium were the site of the pathological changes in this fever. Louis' great work on typhoid appeared in 1829. In England observations were made on this fever with "follicular ulceration" of the bowels; and Dr. Cheyne describes cases of fever occurring in Dublin under the designation of "epidemic gastric fever." In Germany the two fevers—typhus and enteric fever—were distinguished, the former termed "typhus exanthematicus;" and the latter, "typhus abdominalis," or "nervenfieber" or "schleimfieber."

The researches of Lombard of Geneva, Gerhard and Pennock of Philadelphia, Staberoh of Berlin, Shattuck of Boston, Valleix and Rochoux, are referred to, all tending to the conclusion that typhus and enteric fever are essentially different diseases. The leading distinctions between typhus and typhoid fevers, as regards their origin, proximate causes, course, symptoms, and anatomical lesions, were, says our author, pointed out more accurately by Dr. Stewart of the Middlesex Hospital than by any of those who

preceded him; he considered the characters of the two diseases "so marked as to defy misconception." Louis, in the second edition of his work on typhoid fever, declares that:—"Le *typhus fever* des Anglais est nécessairement une maladie très différente de celle qui nous occupe." The doctrine of non-identity had, nevertheless, many—and able opponents both on the Continent and in Great Britain. Gaultier de Claubry, in an essay read before the Académie of Paris, maintained the identity of the two fevers. In 1849 and 1851 Dr. Jenner published his observations on the two fevers; and sought to establish the dependence of the two fevers on distinct causes. He contended that they were as distinct as any of the exanthemata. Many physicians of the highest character who formerly held that the two fevers were identical, have given in their adhesion to the doctrine of non-identity; for example, Drs. Watson, and Tweedie; and Forgel, who, having been brought face to face with veritable typhus, announced his change of opinion, in his report to the Académie of an epidemic of typhus which prevailed in the gaol of Strasbourg; although in a former publication on "enterite folliculeuse," he stated his belief in the identity of the two fevers. He says they differ—"Non seulement par les caractères anatomiques, mais encore par les causes, les symptômes, la marche la durée et le traitement." The French physicians who encountered typhus in the Crimea generally adopted the non-identity side. Jacquot writes:—"En un mot, chaque espèce, typhus et fièvre typhoïde, présente tous les degrés d'intensité, sans cesser de garder son individualité, ses caractères sa marche, ses symptômes, ses lésions."

Dr. Murchison observes:—

"The specific distinctness of the two diseases is now, in fact, generally recognised in every part of the world. It is true that some excellent observers still adhere to the doctrine of identity; and maintain that it is impossible to distinguish the symptoms or lesions of the two fevers; and that, indeed, the dothenteritis of Bretonneau is merely an accidental complication of typhus. Looking at the past history of medicine, it would be surprising if it were otherwise."

Among the excellent observers, our author, we believe, refers to Drs. Christison and Bennett of Edinburgh, and Drs. Stokes and H. Kennedy of Dublin, as still holding by the identity of the two fevers.

GEOGRAPHICAL DISTRIBUTION OF ENTERIC FEVER.

Marked difference exists between the two fevers, when we look to their geographical distribution. We have seen that typhus is limited; typhoid, on the contrary, has been found in all parts of the world; it is epidemic in Great Britain and Ireland, and on the Continent of Europe; it is met with in the torrid and the frigid zones—in India, in Sumatra, and Java, in Syria, in Algeria, on the west coast of Africa, Brazil, and Peru, in New Holland, and Van Dieman's Land, &c., &c.

PREDISPOSING CAUSES.

Age.—Enteric fever is a disease of early life. Of 1,773 cases admitted into the London Fever Hospital in 10 years, the mean age was 21·25. The earliest age was 4 years; and $1\frac{1}{2}$ per cent. exceeded 50. Of 7,348 cases collected from different parts of France, 2,282 or 31 per cent. had not arrived at 15 years of age. The disease may occur at any period of life; Abercrombie, Rilliet, Heiming, Wunderlich, and Charellay, record cases occurring in the first year of life; and there seems reason to believe that it may occur in utero, at least ulceration of Peyer's patches similar to that which is observed in enteric fever, has been observed by Manzini, in a child, which died soon after birth.

ETIOLOGY OF ENTERIC FEVER.

Dr Murchison observes, as to the mode of propagation, that it forms no part of the great epidemics which have devastated Britain; but although essentially an endemic disease, it may become epidemic; and owing to the circumscribed character of the epidemics, it has received names from the locality, as Croydon fever, Westminster fever, Cowbridge fever, and Windsor fever.

Enteric fever, unlike typhus, is much influenced by seasons; it is most frequent in Autumn, so much is this the case in America that it is called "fall fever"—*anglice*, Autumnal fever. In many places it has been noted that enteric fever was prevalent after seasons remarkable for high temperature and dryness.

There is no evidence, according to our author, that *intemperance* predisposes to enteric fever; and, indeed, in France, the same opinion is held; so he might say of Germany; but when the drunkard is attacked his prospects are by no means so good as those of the temperate. Wunderlich thus puts the case:—"Die Säuffer

sind dem enterischen typhus wenig unterworfen, wenn sie aber befallen werden, pflegt die Erkrankung einen schweren Verlauf zu nehmen."

Previous Diseases.—On this subject Dr. Murchison refers to the strange notions of some recent French writers, on the relation of enteric fever to variola, which, in fact, assume that vaccination has been of no use—that it has merely produced a "displacement of mortality," for that enteric fever is variola of the intestines. To vaccinate the mucous membrane with the view of preventing the disease, has been gravely proposed; but, after careful investigation by the Academy of Medicine in Paris, the theories have been found to be utterly without foundation—it were waste of time to dwell upon them.

A sort of antagonism is said to exist between enteric fever and certain diseases. Rokitsanski, Forget, and others, have looked upon tuberculosis as to some extent protective, and the same has been said of puerperal diseases and cholera—of cardiac disease, cancer, &c., &c. The experience of Dr. Murchison is opposed to the opinion of Löschner and Friedleben, that enteric fever and scarlatina have an inverse ratio as regards epidemic prevalence, and he refers to the returns of the Registrar General, which show that the mortality is greatest from scarlatina at the end of autumn, the period when enteric fever is most prevalent. He is doubtful if previous disease predisposes to enteric fever and the same opinion is expressed as to mental emotions. Our experience is different. We have seen enteric fever so often follow the exanthems that we recognize something akin to a predisposition in persons who have recently passed through these diseases. We have lately had a patient, who, while still in hospital, and convalescent from scarlatina, was attacked with enteric fever. It has been held by many observers that powerful emotions and sustained mental labour predispose to enteric fever. Sexual excesses and Onanism also. We may again quote the Leipzig Professor:—"Längst ist es anerkannt, das Individuen mit exaltirter psychischer Stimmung ganz besonders dem typhus und seinen heftigeren Formen verfallen. Dergleichen hat man gefunden, das Bräute vorzugsweise häufig ergriffen werden, und auch in den ersten Wochen der Ehe entwickelt sich der typhus oft und mit hervorstechender Heftigkeit. Ueberhaupt scheinen geschlechtliche Ueberanstrengungen und Excesse der Entstehung sehr förderlich zu sein, nicht bloss bei Männern

sondren auch bei Weibern, und nicht bloss der coitus, sondern auch die onanie. Man sieht häufig männer nach mehrtägigen Orgien in den enterischen Typhus verfallen, häufig ihn bei Dirnen ausbrechen, und bei Onanislen zeigt er sich wenigstens von über wiegender Bösarligkeit."

Over-crowding and deficient ventilation do not appear to have much influence in the production of enteric fever; but Dr. Murchison suggests that deficient ventilation may favour the action of the poison by preventing its diffusion and dilution. Its frequency in country districts and little-crowded localities is matter of common observation. In Paris it has been long since noticed that recent residence predisposed to this disease. This our author has also found to be the case in London. Of the cases admitted into the London Fever Hospital for 14 years, six per cent. had not resided in London three months before their admission into hospital. Dr. Murchison has known several instances of successive visitors to the same house, at intervals of months, or even of years, being seized with enteric fever or diarrhea soon after their arrival, from which the ordinary residents were exempt. These considerations, he says, point to the dependence of pythogenic fever on some local cause to which the system becomes habituated by constant exposure.

Nearly all observers agree that destitution does not predispose to enteric fever. Dr. Murchison is inclined to think that persons in good circumstances are more liable to it than the poor. For confirmation of this opinion he refers to the observations made in France and America, and recently at Windsor and Croydon. The contrast which enteric fever presents to typhus and relapsing fever in this respect he finds borne out by the records of the London Fever Hospital. The evidence on this point he considers overwhelming.

EXCITING CAUSES OF ENTERIC FEVER.

As to these much difference of opinion has prevailed, and still prevails. First, of *contagion*. No one doubts the communicability of typhus, and few of relapsing fever; but not so with enteric fever. Of contagionists and anticontagionists there are a goodly array; and we are willing to join the former. Dr. Murchison having fairly discussed the case, concludes thus:—"In the face of such facts it is impossible to deny that pythogenic fever is communicable by means of some poison emanating from the sick." He does not think, however, that it is contagious in the strict sense of

the term. It is not improbable, he says, that the alvine dejections constitute the chief, if not the whole medium of communication. This has, for a long period, been advocated by Professor von Gietl, of Munich. Even on the possibility of this being well-founded, care should be taken to have the alvine dejections quickly removed. Bretonneau and others believed that the disease may be propagated by fomites.

Spontaneous Generation.—Admitting that enteric fever, under certain circumstances, is communicable, Dr. Murchison believes that it may arise spontaneously. In the year 1858 he presented to the Medico-Chirurgical Society an essay, to which we have before alluded. In this essay he stated that the fever which is due to emanations from sewers is always enteric fever; and that this view explained its occurrence in isolated houses as well as in towns, and why it attacked persons in all conditions in life. In this memoir he adduced a mass of evidence derived from circumscribed epidemics, which arose in connexion with sewer miasms. In some the symptoms were developed so suddenly, and were so severe as to excite suspicion of poison. This was notably the case at the National Hotel, at Washington. Mr. Buchanan, the President elect, and a number of others, were seized with enteric fever. The disease was ascertained, after a rigorous investigation, to be due to sewer gases.

After detailing the history of the "Westminster fever," the Windsor fever, &c., &c., he says, referring to his essay—"subsequent observations have tended to confirm the opinions then expressed."

In some localities it seemed that the fever was caused by the drinking of water tainted with sewage. This was the case at Bedford and Clifton.

SYMPTOMS OF ENTERIC FEVER.

After giving a "Clinical description" of enteric fever, Dr. Murchison, as in the case of typhus and relapsing fever, gives an analysis of the principal symptoms:—*The Physiognomy.*—He dwells upon the signs which distinguish the countenance in this disease from typhus: the countenance often little changed—pale, or with a circumscribed blush on one or both cheeks, present in 74 of 100 cases noted. In severe cases, and in the advanced stage, the face may assume—as it does in many diseases in which "typhoid state" is established—an appearance not to be distinguished from that of true typhus. *The Skin.*—The spots in enteric fever, "tâches roses

lenticulaires," are generally slightly elevated. A minute vesicle has been seen in some cases at the apex, and this has been pointed out by Jenner, Peacock, and Gairdner. The spots disappear on pressure, and never at any period become petechiæ. They are few in number, and come out in successive crops, each spot lasting three, four, or five days, and then fading. Of 98 cases observed, with reference to the eruption, by Dr. Murchison, the number of spots, at any one time, never exceeded 20 in 61; in 37 cases it exceeded 20, and in 9 it exceeded 100. More numerous in adults than in children. The situation of the spots generally the front of the chest and abdomen; but they are sometimes seen on the back, legs, and arms, and even on the face, but the latter situation is extremely rare. The date of appearance—between the 7th and 12th day, inclusive: the duration—7 to 21 days. The eruption is not always present. Of 1,413 cases admitted into the London Fever Hospital, they were present in 10 per cent. Unlike typhus, there is no relation between the abundance of the eruption and the severity of the disease. By some the copiousness of the spots has been considered a good sign. This view has been adopted by Louis, Barthez, and Rilliet; and by Dietl, of Cracow. In five out of 45 cases our author has observed a delicate scarlet rash to precede the appearance of the lenticular spots—a circumstance tending to lead to the disease being mistaken for scarlatina, when sore throat coëxists.

Vibices and Petechiæ have been met; but the latter are independent of the lenticular spots, never being developed in their centre. There is a peculiar appearance of the skin often seen in typhoid fever—the "*tâches bluâtres*"—a delicate blue tint, not raised nor influenced by pressure, sometimes in the course of small veins. According to the experience of Trousseau and our author, these blue spots have been found in mild cases. *Sudamina*, and subsequently desquamation of the cuticle, have been noticed, and herpes sometimes on the lips.

The Pulse.—Out of 100 cases, Dr. Murchison found that it exceeded the normal standard in all but one. In 97 cases it exceeded 90; in 85, it exceeded 100; in 70, it exceeded 110; in 32, it exceeded 120; in 25, it exceeded 130; in 10, it was above 140; and in two, above 150. The frequency varies at different times of the day, giving the fever something of a remittent character. The pulse may fall in frequency while the fever continues, as proved by the coming out of fresh crops of spots; or it may keep up in convalescence owing to complications.

The Tongue.—Dr. Murchison has noted unusual redness in 69 out of 100 cases. It may be moist throughout the fever. It is sometimes red and glazed, surface being clean and smooth. There are often transverse fissures; in 35 of 100 cases they were present. The lips are often dry and parched, and they may crack and bleed.

Meteorism is very frequent. In 79 of 100 cases of Dr. Murchison's the abdomen was unusually resonant; in 17 there was great distension. In half of Louis' cases, which ended fatally, there was great distension.

In 31 out of 44 cases our author noted gurgling on pressure of the right iliac region. He found tenderness on pressure in this situation in 71 out of 81 cases. He has also found diarrhea in 93 of 100 cases. In 38 of 100 cases diarrhea was one of the first symptoms. There is no connexion between the intensity of the diarrhea and the extent of the intestinal ulceration. However, the more severe and persistent the diarrhea, the greater the danger in enteric fever. This, which was Louis' experience, is confirmed by all observers. In some the bowels are confined, and urgent diarrhea follows the administration of an "ordinary purgative"—a good reason for never giving an "ordinary purgative" in enteric fever. In seven of our author's 100 cases diarrhea was not present at any stage.

The character of the alvine dejections in enteric fever are peculiar; yellow, ochre-like colour, ammoniacal and offensive in odour; alkaline reaction, specific gravity about 1015; 40 parts in 1,000 of solid matter. Schönlein demonstrated the presence of crystals of triple phosphate, which he believed were peculiar to the evacuations in "abdominal typhus;" but subsequent investigations have proved this to be an error.

The Spleen has frequently been found enlarged, particularly in young persons. Taupin ascertained marked enlargement in 109 of 121 cases of children.

Intestinal Hemorrhage occurred in 14 out of 84 of Dr. Murchison's cases, and in seven out of 21 fatal cases noted by Dr. Jenner. In six out of seven cases which ended fatally under the care of Chomel, five of our author's 14 cases ended fatally; and he says:—"Although I have known patients recover after profuse hemorrhage, I have never observed the slightest benefit from it; on the contrary, I have repeatedly seen patients die unexpectedly by syncope a few hours after its occurrence, who had previously done well." Bretonneau, Chomel, Louis, and Jenner consider hemorrhage a dangerous symptom.

Now for a very different view of the case.

Dr. Graves reports certain cases in which it was thought to be productive of marked benefit. Ragaine (de Mortagne) records 400 cases of which 11 had intestinal hemorrhage, and all of the 11 recovered. Trousseau at one time believed the occurrence of hemorrhage of grave import, but he has altered his opinion. He says:—"Je professe aujourd'hui une doctrine tout à fait opposée, à savoir, que les hemorrhagies intestinales, dans la fièvre typhoïde, loin d'avoir la gravité qu'on leur accorde, constituent le plus souvent un phénomène de favorable augure."

After this unequivocal expression of opinion as to the influence of intestinal hemorrhages, we find him guarding himself against a too favourable conclusion, being drawn from his language—and, in truth, we may add, the only one which it warrants:—"Ces hemorrhagies intestinales sont, dans un trop grand nombre de cas encore, très graves. Par leur excessive abondance, elles peuvent foudroyer les malades," &c., &c.

Dr. Henry Kennedy says most cases recover; and that they are in general benefited by the intestinal hemorrhage. We are inclined to think the different views expressed on this point by such competent observers arise from a want of accuracy in distinguishing between hemorrhages, slight and unimportant in amount, and those which, from their severity, imperil life. We have seen a sufficient number of cases in which hemorrhage in enteric fever, directly or indirectly, led to fatal consequences, to satisfy us that the complication is a most serious one, and greatly adds to the gravity of the disease. We could adduce the history of cases in support of this opinion, which has been long maintained; but space does not admit. The Fourth Volume of *The Dublin Hospital Gazette* contains a highly instructive case illustrating this point, reported by Professor M'Dowell, one of the Physicians of the Hardwicke Fever Hospital. In this case profuse hemorrhage occurred from the bowels on the 16th day. So great was the quantity of blood which came away, that, in addition to a large quantity passed into the bed-pan, it subsequently soaked through the bedding to the floor: here death was *directly the result* of hemorrhage. Trousseau relates a similar case; but one in which death followed more rapidly, one hour only having elapsed from the access of the bleeding until the fatal result.

Dr. Murchison's examinations of the *urine* in enteric fever lead to the following results:—During the first week marked diminution

in quantity; in convalescence the secretion is copious—even 80 to 90 fluid ounces passed in 24 hours; specific gravity at first high—1025 to 1030; late, or in convalescence, it sometimes does not exceed 1005 or 1003. Albumen is less frequently found in the urine in enteric fever than in typhus; and it is later in making its appearance. It is present in about 32·26 per cent. Cases in which albuminuria occurs, are generally severe. The consequences of non-elimination of the urine are the same as in typhus.

It is worthy of notice that, as compared with typhus, a large number of cases of enteric fever are free from delirium in all stages of the disease. Out of 100 cases the author found that 33 remained perfectly clear throughout the attack; three of the 33 patients died. Eight cases in which there was no delirium were fatal. His experience agrees with that of Jenner and others, in assigning the greatest danger to cases in which the delirium is most violent and noisy. Dr. W. T. Gairdner, in his *Clinical Medicine*, makes some remarks on the mental states in enteric fever which are very important and eminently practical. Speaking of a case of enteric fever presenting a group of symptoms which might be mistaken for hysteric coma or tubercular meningitis, he observes:—"In *typhus*, according to my experience, the delirium precedes the coma, and accompanies it until the unconsciousness becomes complete. There is no such thing, I suspect, in typhus, as *coma without delirium*; but in this case we have a kind of half-unconsciousness, although we have not now, and never have had, any delirium at all. Moreover, there is another distinction of this state from the coma of typhus, which I hold to be *absolute* as far as my experience goes. The state of the pupils is quite the opposite of that which is characteristic of the delirium and coma of typhus. The danger of the true febrile coma is, in fact, very much in proportion to the contraction of the pupils; and as for typhomania with dilated pupils (still more with very dilated and nearly insensible pupils, as in this case), I do not think I ever saw it in genuine maculated typhus."

General convulsions occurred in two of Dr. Murchison's cases of enteric fever—one died comatose, the other recovered; the urine was albuminous in the first, but not in the second.

Epistaxis occurred in 13 of 58 cases, noted by Dr. Murchison; and in three cases he has known it to be the cause of death. The mean duration of the cases was 24·6 days. In six cases the disease lasted above 30 days. In some instances we have known the disease much more protracted. Without placing any reliance on critical

days, the author has found that enteric fever frequently terminates on the 21st or 28th day.

COMPLICATIONS AND SEQUELÆ.

Pneumonia and pleuritis are more frequent than in typhus; the former occurred in 13 of Dr. Murchison's 100 cases. The frequency of tuberculosis of the lungs, as a sequel of enteric fever, has been observed by every physician who has had much experience of the disease. Dr. Murchison does not think it is possible to distinguish between the different forms of peritonitis; certain it is that some cases in which it has been proved that there was no perforation, have, during life, exhibited symptoms which have led to the belief that this event had taken place. One of the most remarkable instances of the truth of this proposition is to be found in Trousseau's *Clinique Medicale*. The case is interesting, moreover, from the fact of the peritonitis appearing to be produced by mental emotion. The patient had entered upon convalescence, "lorsq' a la suite d'une impression morale très vive, elle fut prise subitement de symptômes excessivement graves, tels que douleurs dans le ventre, vomissements bileux, alteration profonde des traits, depression du poulx, affaissement général." Rayer and other physicians believed that the case was one of peritonitis, and from perforation, and they treated it after the manner of Dr. Stokes, by large doses of opium. The examination after death, made with great care, proved that no perforation had ever taken place. It may be that some of the cases of recovery of the supposed perforation were analogous to the one recorded. The probability of perforation taking place after the patient is convalescent is one circumstance which renders enteric fever a disease so replete with danger. Though death has taken place in three or four hours after perforation, Dr. Murchison has known one case survive the event 105 hours, a second 12 days, and a third case 16 days. Of 165 autopsies which he has collected, he found that perforation had occurred in 35, or in 12·2 per cent.

Diagnosis of Enteric Fever.—The diseases, according to our author, most likely to be confounded with enteric fever are typhus, relapsing fever, remittent fever, variola, scarlatina, pyemia, latent pneumonia, acute tubercle of the lungs, tubercular meningitis, cerebral softening, gastro-enteritis, and some forms of chronic peritonitis. The diagnosis is sufficiently easy when the eruptions are well developed; but the writer truly observes that if the typhoid state be established when the patient is first seen, and nothing

known of the history, it may be impossible to say whether the case is typhus, enteric fever, cerebral disease, or disease of the kidneys.

Rate of Mortality.—Of 18,612 cases, collected from various sources, 3,447 were fatal; or a mortality of 18·52 per cent., or one in 5·8—a result almost as unfavourable as that in typhus.

The *Morbid Anatomy* of enteric fever Dr. Murchison thus sums up:—

“The agminated or solitary glands of the ilium and the mesenteric glands are invariably diseased. Other secondary lesion are found which are not essential—ulceration of mucous surfaces, pneumonia, bronchitis, hypostatic consolidation of the lungs, softening of the heart, and a large amount of intra-cranial fluid. There is no specific ‘typhous exudation,’ and no evidence that the secondary lesions are due to the deposit of a material like that found in the mesenteric and intestinal glands. There are no signs of inflammation of the brain or its membranes, to account for the cerebral symptoms.”

Remedial Treatment.—Dr. Murchison reviews the different remedies recommended in enteric fever, before coming to what he calls the “rational method.”

Blood-letting.—Few British physicians would be inclined to do more than apply a few leeches to the abdomen, which is what the author tells us he has done, and he has found marked relief follow their application, and also when applied around the anus. He thinks, however, that the like relief has followed the constant application of poultices and warm fomentations. Fully impressed with the soothing influence of the latter, we cannot agree in the opinion here expressed, but strongly recommend the practitioner to try both.

As to the effect of *cold affusion*, as practised by Currie, and lately recommended by Trousseau, the author considers that it deserves investigation.

Emetics.—The author considers emetics valuable remedial agents in the early stage of enteric fever, for gastric disturbance, vomiting, and headache. In the advanced stages they are dangerous, inasmuch as the straining may give rise to intestinal perforation.

Laxatives have been recommended by French physicians of the most extensive experience, on the supposition that the disease is the consequence of the retention in the intestines of decomposing matters. The author thinks, with good reason we believe, that the natural history of the disease contra-indicates laxatives. He

quotes, with approbation, the advice of our countryman, Dr. Todd, which is:—"Restrain diarrhea and hemorrhage in typhoid fever; and when you have fairly locked up the bowels, keep them so. Patients will go for four or six days, or even longer, without suffering inconvenience from this state of constipation."

Mineral Acids are highly commended; but, at the same time, the author feels it his duty to state that the assertion lately made in the journals that they constitute an almost infallible cure for typhus and typhoid fever, must be founded on very limited observation. It is scarcely necessary, we think, to refute so extravagant a statement.

Quinine, in small doses, combined with the mineral acids, has been found to reduce the febrile action and improve the appetite.

Diuretics.—Some remedies, recommended with a view to promote elimination by the kidneys, are inappropriate in typhoid fever—*e.g.*, nitrate and bitartrate of potash; but nitric ether or decoction of broom tops may be given. Our author repeats the wise advice given two centuries since by Baglivi, that colocynth and all the ordinary purges are "to be shunned like the plague."

Astringents.—The various means for checking diarrhea are discussed; enemata of starch and opium, aromatic sulphuric acid, and Battley's sedative liquor of opium, acetate of lead with or without acetate of morphia, Dover's Powder, and hydrargyrum cum cretâ, nitrates of silver and copper, &c., &c.; of all these we prefer Dover's Powder. We generally find small and frequently repeated doses sufficient to hold the bowels in check. Much stress is properly laid on the expediency of the constant application of poultices and stupes with turpentine, &c., &c., to the abdomen.

Hemorrhage from the Bowels.—In slight forms, acetate of lead and morphia, with starch and opium enemata, have been generally found sufficient; but in severe forms, sulphuric acid and opium with opiate enemata, are recommended. Tannin, rhatany, and perchloride of iron are mentioned. Turpentine has been given with advantage, but sulphuric acid and opium are preferred. We have found turpentine the most beneficial agent, but we do not give it in as large doses as the author (10 to 30 drops) every hour. Ice internally and applied externally, are also recommended.

Tympanitis.—Turpentine stupes and assafetida enemata, acetate of lead and morphia, or turpentine internally.

Peritonitis.—The author refers to the impossibility of determining between peritonitis from perforation and from other causes, but in

the greater number of cases it is caused by perforation. The case though desperate, is not hopeless. The opium treatment, as recommended by Dr. Stokes, is to be vigorously carried out—two grains of opium at once, and then one grain every hour, or second or third hour, according to circumstances—no mercury, no leeching; warm fomentations with turpentine.

Huss recommends ice to the abdomen, which our author thinks worthy of trial; strict rest; fluid food in small quantities.

Stimulants.—The rules for the administration of stimulants in enteric fever are highly judicious. The observation as to many cases doing well without any kind of stimulant is perfectly correct, and is well worthy the attention of young physicians, particularly at the present time.

When wine is demanded in enteric fever, it is not until a more advanced period of the disease than in typhus, and in smaller quantity. When brandy is required milk is an excellent vehicle for it; we find the mixture in most cases, highly appreciated by patients, particularly when iced. Dr. Murchison recommends wine whey also, which he prepares by adding one part of sherry to two of boiling milk, then straining.

TYPHUS AND TYPHOID CONTRASTED.

Dr. Murchison devotes a chapter to the scientific distinctions of typhus and enteric fever; and though in the course of this review or analysis of the work, we have repeatedly had to refer to the characters which distinguish the two diseases, we shall condense the arguments brought forward in support of what we may now designate the generally received opinion. We do this willingly on the *audi alteram partem* principle, because our readers have more than once, and even in a late number of our Journal, had before them the arguments on the other side, brought forward by Dr. Henry Kennedy, a physician who has devoted much attention to the subject, and whose opinions are entitled to the highest respect.

Take two typical cases:—

On the one hand—a fever of a more or less remittent type, with a definite anatomical lesion, rose-coloured lenticular spots in successive crops, diarrhea, abdominal tenderness, hemorrhages from bowels and nose, and dilated pupils—average duration, three to four weeks. On the other hand—fever of more continued character; measles eruption; the spots often changing into petechiæ; peculiar odour; contraction of pupil, and tendency to stupor; average duration, in

uncomplicated cases, not often exceeding 14 days. Dr. Murchison observes that symptoms which characterize one are sometimes absent, and may be observed in the other—as diarrhea and hemorrhage may occur in typhus, and constipation in enteric fever. He thinks, practically, the cases are rare in which a diagnosis cannot be made; and believes the difficulty more frequently arises in diagnosing enteric fever from diseases which are universally admitted to be distinct. We can fully endorse this statement, having met with cases of acute tuberculosis of the lungs, which so closely resembled enteric fever, with pulmonary complication, as to present difficulties of diagnosis most embarrassing to the physician.

The author believes the two following propositions will be found to hold good:—

“1st. When lenticular rose-spots appear in successive crops in the course of continued fever, the abdominal lesions of continued fever are invariably present.

“2nd. When the eruption of typhus shows itself in the course of continued fever, the abdominal lesions of enteric fever are absent.”

Many hundred dissections, for the last fourteen years, at the London Fever Hospital, without a *single exception*, support these propositions. Much of the difficulty and confusion which exist may be said to arise from the loose manner in which the terms applied to the eruptions in fever are employed. Upon this point our author observes:—“Unless a definite meaning be attached to the terms *typhus eruption*, as distinct from the eruption of enteric fever, it is needless to discuss the question.” He also believes that the lighter florid spots of typhus, which at first are only slightly raised above the surface, are mistaken for the spots of enteric fever; this mistake is the more likely to be made if they are unaccompanied by mottling. If these spots are watched for 24 or 48 hours, they cease to disappear on pressure, and they are generally associated with mottling. The changes characterize the typhus eruption, and are inconsistent with that of enteric fever. The writer then says:—“It is not surprising that the lesions of enteric fever were absent in a case reported by Dr. Kennedy, of Dublin, to the Medico-Chirurgical Society of London, where some of the spots, thought to be characteristic of enteric fever, were indistinguishable from true petechiæ at the end of the fourth day from their appearance.” It is worthy of notice that Huss does not mention the florid spots,

which may be slightly elevated, and which precede and are converted into the petechiæ of typhus.

It should never be lost sight of that when spots cease to disappear on pressure, or are converted into petechiæ; they are not the eruption of enteric fever, and the intestines are not found diseased after death. It is also necessary to be aware of the fact that petechiæ are not the characteristic eruption of typhus fever; they are met in other diseases, and the rash of typhus may never become petechial. Our author does not think the fact of petechiæ being observed in certain cases of fever, where the intestines have presented the lesions of enteric fever, any proof that the two fevers are identical.

Dr. Murchison has published, some years since, three cases, in which the patients seemed to labour simultaneously under both typhus and enteric fever, owing to exposure to the poisons of both diseases. There is nothing extraordinary in this when we reflect upon the admitted fact that it often happens that two diseases, originating in different poisons, may coëxist in the system. We see cases in which two of the exanthems coëxist—scarlatina and variola, and measles and scarlatina, or the hybrid disease. Why may not typhus and enteric fever? Our author admits the coëxistence of the two rashes in rare cases; but, he says, if such are adduced to prove the identity of the two diseases, the same line of argument would necessitate the conclusion that all acute specific diseases spring from one poison.

Etiology.—"The two fevers have no community of origin." The experience of the author is in accordance with that of Dr. Jenner; and he refers to that of Drs. Peacock and Wills, and to Dr. A. P. Stewart of the Middlesex Hospital, who, during nine years, has never met with a single exception. Dr. W. T. Gairdner wrote, in 1860:—"Within my experience for 10 years past, no instance has occurred of a decided origin of enteric fever in a group of typhus cases, or of typhus in a group of enteric cases; and, therefore, I am entitled to say that I have obtained very strong evidence in corroboration of the view that these two diseases are, in reality, different diseases, and not mere varieties of the same disease." Since this was written, Professor W. T. Gairdner, in his admirable work on *Clinical Medicine* (a work which we had hoped to review in this number of the Journal) makes some important observations on the distribution of enteric fever and typhus in Edinburgh. After giving all the facts as to the origin and progress of fever during the preceding Summer, he says:—"The facts, as stated, point clearly

to two fevers, and not to mere accidental varieties of one disease. Assuming the principles of diagnosis employed to be correct, it is inconceivable, on any other hypothesis than that of specific difference of type, that typhus and enteric fever should both have maintained themselves in Edinburgh at the same time, and in a certain relation to certain localities and groups of persons, but should not have been observed to be ever interchanged or substituted, the one fever for the other; that typhus should always have been associated with typhus only, and enteric fever with enteric fever only, wherever association could be distinctly traced; and that in no instance should the two diseases have ever crossed each other's path (as it were) so far as to approach within a quarter of a mile of each other, except a single instance, sufficiently explained above."

Dr. Murchison refers to the instance recorded by Huss of two individuals going to inhabit an infected house, one being attacked with typhus and the other with enteric fever; but simultaneous occurrences of typhus and scarlatina take place in the same house; and, referring to this single instance, Professor Gairdner says, such instances ought to be quite common, on the hypothesis of "identity" of the two fevers. The observations of most physicians of fever hospitals confirm the statement of Dr. Murchison, that "an attack of one fever confers an immunity from a subsequent attack of itself, but not of the other." Many authorities are quoted for the fact that one fever may follow the other—a fact we have ourselves noticed.

Dr. Corrigan relates a case of enteric fever which followed typhus, and proved fatal. The patient had been some days convalescent when the enteric fever set in. The usual changes in the intestine were found after death. Our author informs us that "in fatal cases, when the sequence of the fevers is reversed, we find only the cicatrices of the old intestinal ulcers."

Professor Gairdner, in referring to cases of enteric fever subsequently attacked with typhus in hospital, considers it a renewed illustration of the essential difference of the two fevers. He has of late, as far as was practicable, insisted on the two fevers being separated, believing that there would be less risk, on the whole, in distributing cases of enteric fever through the ordinary wards than in placing it in the same ward with the much more contagious typhus.

Having paid no ordinary attention to the subject under discussion, and having ample opportunities for observation, we have long since

ranged ourselves on the side of those who believe in the *non-identity* of the two fevers. There is no more difficult process for the human mind than giving up long-cherished opinions; and this applies to medical theories and doctrines to an extent of which we ourselves are frequently unconscious. That there are still a few honoured members of our profession who believe in the *identity* of typhus and enteric fever, or that they are mere varieties and have a common origin, we must admit; but there have been some notable desertions from their ranks of late; for example, the distinguished President of the College of Physicians of London, Dr. Watson; and we venture to prophesy others will follow.

Having brought our lengthened analysis of Dr. Murchison's work to a close, we have to express the very high opinion we entertain of the manner in which he has performed his arduous task; and to state that we look upon it as the most learned and comprehensive history of the continued fevers of Great Britain which we possess.

Having reviewed the comprehensive work of Dr. Murchison at great length we regret we cannot devote as much space as their importance merits to the Lumlian Lectures of Dr. Tweedie. We have, from our earliest student days, been acquainted with Dr. Tweedie's writings on fever, and we rejoice to find him, in the plenitude of his great experience, giving to the world his matured views on a subject so deeply interesting to the practical physician. Many men write books or contribute articles to periodicals in the early years of professional life, advancing views which they find untenable when tested by a large experience; but, how few, like Dr. Tweedie, take the trouble of making known the change which time has wrought in their opinions.

It is often a subject of regret that men who, from the extent of their opportunities must know most, write least, being often engaged in the all-absorbing work of a practice which leaves no leisure for literary labour.

The lectures of Dr. Tweedie in which he describes the treatment of the different forms of fever, may be read with advantage; and his opinions are worthy of all respect. Our own experience confirms the truth of almost all he advocates in the management of fever, with one or two exceptions. For example—in describing the treatment of enteric fever he cautions us against the exhibition of aperients when diarrhea is present—a practice sanctioned by the high authority of Louis, but he says:—

"In the very commencement, and particularly if there be uncertainty as to the state of the bowels, it may be well to exhibit a mild laxative, such as castor oil, magnesia, phosphate of soda, or rhubarb; and should the selected aperient act unduly, an aromatic draught, with a few drops of laudanum may be given to check the irritation."

Now, with all due respect for our author, we protest against the aperients, which are almost certain to "act unduly," and thus produce the "irritation" which it becomes our duty to "check."

Dr. Tweedie also says:—

"When the evacuations are frequent (more than 3 or 4 in 24 hours), the powers of the patient become enfeebled, not only by the drain on the system, but the very exertion in getting out of bed tells on the patient's strength. It becomes necessary to check this symptom, &c."

A patient in fever, whatever the form may be, should never be allowed to get out of bed, knowing, as we do, the fatal consequences which have, in some instances, resulted from such an exertion in states of great debility.

The directions which our author gives for checking the diarrhea are excellent: speaking of the employment of diacetate of lead, he tells us he is in the habit of giving it even in the early stage, under the impression, from its power of checking hemorrhage from mucous surfaces, that it is capable, not only of controlling the diarrhea but of keeping in check the ulcerative process in Peyer's patches. He also thinks highly of the efficacy of sulphate of copper and nitrate of silver, with opium, in combating the protracted diarrhea of enteric fever.

Dr. Tweedie's observations on the employment of wine and alcoholic stimulants in enteric fever deserve much attention, particularly, at the present time. "They are too often prescribed on the mere dogma of routine; and even when the symptoms warrant their employment, a much smaller quantity is required than in typhus fever."

We would gladly follow Dr. Tweedie in his judicious observations on the treatment of all the forms of fever, noticing the most important points for the benefit of our readers; but we have already devoted a large amount of space to the subject, and, in many instances, it would be going over ground which we have so lately trodden.

We shall conclude our brief notice by laying before our readers Dr. Tweedie's recantation of the views which he had long held on

the subject of the identity of fevers—in which he was supported by almost every physician in Great Britain, and which he enunciated in his article “Fever,” in the *Cyclopædia of Practical Medicine*. At that period he tells us he believed that “typhus and enteric fever were not distinct diseases.”

“It is due to my own reputation, no less than to the cause of truth, frankly to avow that more mature reflection, aided materially by investigations made in the wards of the Fever Hospital, under my immediate inspection, by my friend Dr. Jenner, and carefully weighing the arguments and deductions of recent writers—British, American, and Continental—has led me to believe that there are, at least, two distinct forms of continued fever, easily distinguished from each other during life—the one, by its invariably present lesions—the other, by the equally invariable absence of them. In short, that the two forms, though having a close resemblance in the general symptoms, and having many features in common, are as distinct from each other as they are from the periodic or from exanthematous fevers.”

A Clinical Memoir on Certain Diseases of the Eye and Ear Consequent on Inherited Syphilis. By JONATHAN HUTCHINSON, F.R.C.S., &c., &c. London: John Churchill. 1863. pp. 259.

THIS work is, as the author mentions in his preface, a much extended reprint of a series of papers originally published in the *Ophthalmic Hospital Reports*, which excited much interest amongst ophthalmic practitioners, but as they have not yet, we believe, attracted the attention of the profession at large; and, as the subject of which they treat is of scientific as well as practical importance to all, we would direct our readers' attention to it.

It is, we believe, an old suspected, and now a well established fact, although absolutely denied by Hunter, that constitutional syphilis is capable of being communicated to infants and children, either directly or indirectly. As far back as in the sixteenth century Mercatus, in his treatise on the *Morbus Gallicus*, by which title syphilis was then known, referred many hereditary affections to that disease, and explained that it was sometimes communicated to the child in utero, or by means of the breast of an infected nurse or mother. Various other ancient authors also asserted that the disease was capable of being transmitted from the parent to the

offspring. The appearance of a syphilitic infant must be familiar to our readers and needs no description on our part. The disease once seen cannot easily be forgotten; and being, in the majority of cases, readily recognized during early childhood, the proper treatment is always apparent. Later in life, however, constitutional syphilis is extremely difficult of recognition. Many affections of a remarkable and perplexing nature come under the practitioner's notice which, after resisting various remedies and plans of treatment, readily get well under the use of mercury, and which we venture to affirm are, in the majority of instances, attributable to inherited syphilis. As the subjects themselves of these affections can naturally give us no assistance in tracing their malady to the supposed cause, and as the parents, even though they may suspect the nature of such affection, will scarcely ever volunteer the required information, any indirect method of establishing or refuting our suspicion is of great practical as well as of great moral moment; and any one or more symptoms, should there be any such, which can be demonstrated to exist always, or nearly always, in the offspring of parents undoubtedly affected with syphilis prior to the birth of such child, and which shall be patent to all observers, becomes of the greatest importance. Now, Mr. Hutchinson considers he has proved the existence of an objective symptom in persons advanced to the second dentition period, and says that:—"Dental peculiarities, of a certain kind, are, when cautiously examined, a reliable indication of inherited taint;" and in support of the truth of his conclusions adduces Mr. Dixon and Mr. Paget as fully agreeing with him. We extract the description given of these dental peculiarities which are stated to be pathognomonic of inherited syphilis.

"The central upper incisors of the second set are the test teeth; and the surgeon, not thoroughly conversant with the various and very common forms of dental malformations, will avoid much risk of error if he restrict his attention to this pair. In syphilitic patients these teeth are usually short and narrow with a broad vertical notch in their edges, and their corners rounded off. Horizontal notches or furrows are often seen, but they, as a rule, have nothing to do with syphilis." And again:—"As diagnostic of hereditary syphilis, various peculiarities are often presented by the other teeth, especially the canines, but the upper central incisors are the test teeth. When first cut these teeth are usually short and narrow,*

[* Of the permanent teeth.]

from side to side, at their edges. In the edge is a crescentic portion, thinner than the rest, which, after a time, breaks away, leaving a broad, shallow, vertical notch, which is permanent for some years, but, between twenty and thirty, usually becomes obliterated by the premature wearing down of the tooth. The two teeth often converge, but sometimes they stand widely apart. In certain instances in which the notch is either wholly absent, or but slightly marked, there is still a peculiar colour, and a narrow squareness of form, which are easily recognized by the practised eye."

Besides these dental malformations, there are other objective signs characteristic of inherited syphilis, noticeable before and after the second dentition period, some of which have been noted by other writers as well as by Mr. Hutchinson:—

"The skin is almost always thick, pasty, and opaque. It also often shows little pits and scars, the relics of a former eruption, and at the angles of the mouth are radiating linear scars, running out into the cheeks. The bridge of the nose is almost always broader than usual, and low; often it is remarkably sunk and expanded. The forehead is usually large and protuberant in the regions of the frontal eminences; often there is a well-marked broad depression a little above the eyebrows. The hair is usually dry and thin, and now and then (but only rarely) the nails are broken, and splitting into layers. . . . The occurrence of well characterised interstitial keratitis is now considered, by several high authorities, as pathognomonic of inherited taint. It is almost invariably coincident with the syphilitic type of teeth; and when these two conditions are found together in the same individual, I should certainly feel that the diagnosis was beyond doubt."

Almost each structure of the eye and its appendages is, according to Mr. Hutchinson's belief, liable to inflammation of a constitutional syphilitic nature, but the cornea, iris, and choroid appear to be specially obnoxious to that form of inflammation; and to prove that interstitial keratitis, iritis, kerato-iritis, and choroiditis, and other forms of eye diseases as well as "deafness," when occurring concomitantly with the dental and facial peculiarities alluded to, are attributable to constitutional syphilis, a very large number of cases is recorded.

Twenty-three cases of *iritis* are given as having occurred in infants, varying in *age* from six weeks to sixteen months, and in most of which there existed at the time of the *iritis* other symptoms of venereal disease, or in which the history given by the parents or

attendants was conclusive. Five of the children were males, and sixteen females; the sex of the other two is not given. The treatment recommended by the author is the daily use of atropine and mercury. Dr. Jacob, who, after Lawrence, was the first to describe syphilitic iritis in infants, says, when discussing this disease in his valuable *Treatise on the Inflammations of the Eyeball*, published in 1849:—"Mercury and the local application of extract of atropa belladonna, during the existence of the inflammation, and tonics, alteratives, and generous diet, should the disease linger, constitute the principle resources. Of the preparations of mercury the hydrargyrum c. cretâ appears the most appropriate and convenient; and in acute cases it may with advantage be combined, at first with James's powder, or other manageable antimonial. Sarsaparilla, iodine, and bark, can be resorted to as auxiliaries if necessary."

The cases illustrative of *chronic interstitial keratitis*, of syphilitic origin, occupy nearly half the book. With respect to the term *keratitis*, which is we believe much objected to in this country, we may remark that we consider it equally good, if not absolutely preferable, to the term *corneitis*. Considering that we already make use of other combinations derived from *κέρας*, such as keratonyxis, and that it is of great advantage to have a universal nomenclature, in which each term shall convey the same meaning to every reader, no matter in what part of the world, and that *keratitis* is now in most general use, we see no reason against its adoption in this country.

The term *interstitial keratitis* is used by the author to denote the disease hitherto known as *scrofulous corneitis*, for a description of which we refer our readers to the writings of Dr. Jacob, Mackenzie, and others; we purpose merely bringing forward Mr. Hutchinson's statistics and reasons for discarding the old name, and adopting in its stead "syphilitic keratitis." One hundred and two unselected cases are given, of which in two instances the patients were sisters, and in two brother and sister. The disease occurs principally between the *ages* of eight and fifteen, the average being ten; the youngest age noted was two, and the oldest twenty-six years. It is comparatively rare in early childhood, and still more so after adult age has been reached. As in iritis, so in this disease, females are more liable to it than males, the *sexes* being thirty-eight males, and sixty-four females. In ninety-one cases both eyes were affected, and in eleven only one eye suffered. In most of these cases the "syphilitic physiognomy" was well marked, of which the striking characters are:—"A coarse flabby skin, pits and scars in

the face and forehead, cicatrices of old fissures at the angles of the mouth, a sunken bridge to the nose, and a set of permanent teeth peculiar for their smallness, bad colour, and the *vertically notched edge of the central upper incisors*." In many cases there were, coincident with or prior to the corneal attack, ulcerative lupus, nodes on the long bones, psoriasis on the face, ulcers in the throat, laryngeal disease, pain and swelling of the knee-joint, &c. The author remarks on the *infantile history* of the patients:—

"In more than half the cases, a clear history of the occurrence of symptoms of inherited syphilis in infancy (rash, sore mouth, ulcers at anus, prolonged snuffles, &c.,) was obtained. This proportion would probably have been much increased, but that in many cases I was unable to see the patient's mother, or any one who could answer questions on this head. . . . In numerous instances the mothers admitted that some of their other children had also suffered from similar symptoms in infancy. Many of those cases in which I was unable to obtain a history, or to make inquiry as to infantile symptoms, are those in which the physiognomy, teeth, &c., were most characteristic."

And, respecting the *history of syphilis in the parents* of such children, the author observes:—

"Those who have engaged in similar inquiries will feel no surprise at the fact, that in twenty-nine cases only did I obtain from the parents a free admission that one or both had, prior to the birth of the child, suffered from venereal disease in a constitutional form. Of these, in eighteen instances the mother had been infected by her husband, and both were consequently diseased; in eight, the father only was known to have had the disease; in two, the mother had had syphilis before marriage, and believed the husband to be healthy; and in the remaining one there was a statement (probably untrue) about the communication of the disease to the infant by a tainted nurse. In about half of the cases I either had no opportunity of asking questions on this score of either parent, or did not avail myself of it. In several instances syphilitic symptoms existed in one or other parent at the time that the notes were taken, and this class includes some in which, notwithstanding, all history of primary disease was denied. In a few cases in which I could obtain no confession, the mother admitted that other medical men, who had attended her children in infancy, had asked the same questions."

The mortality amongst the brothers and sisters of the affected person will afford important information. In seventy-seven of

these cases, such mortality was specially noticed, and the result we find as follows:—

“Seventy-seven mothers had borne a total of 547 children, and of these only 284 remained alive. In other terms, seventy-seven patients, suffering from interstitial keratitis, pass before us, and we find on inquiry that, taking one with another, they have all lost, in early life, nearly half of their brothers and sisters. There can be little doubt, despite the many fallacies to which statistics expose us, that this rate of mortality is high.”

Taking for granted that syphilis is the cause of the disease, we may *à priori* assume that the *patients are generally the eldest in their respective families*, and this we find to be the fact. In eighty-two cases the patient was the eldest in fifty-five instances, second in fourteen, third in nine, fourth in three, and fifth in one instance.

“Why the first-born should suffer most often, and most severely, from a disease consequent upon syphilis in the parent, we can easily understand; it is in keeping with all that we know respecting the transmission of that disease. On the ‘strumous’ hypothesis, however, to the exclusion of inherited syphilis, I think I may fairly challenge any one to offer a shadow of explanation of the remarkable facts thus adduced.”

The author thus sums up the chief reasons which induce him to regard interstitial keratitis as a direct result of inherited syphilis.

“1. From its being a very well-marked and peculiar form of ophthalmia, it is *à priori* probable that it acknowledges some single and definite cause. 2. Its subjects are almost invariably of very peculiar physiognomy, and usually bear the most marked similarity to one another. 3. Its subjects almost invariably have thin upper central incisor teeth, of the permanent set, dwarfed and notched in a peculiar and characteristic manner. 4. In most cases the features alluded to under the last heads bear no resemblance whatever to those of “struma” properly so-called. On the contrary, the subjects of tuberculous struma, usually have large white teeth, and are often of a florid complexion. 5. I have not yet seen a single case in which the patient was the subject of phthisis, and but very few in which suppuration of the glands of the neck had occurred. 6. It affects, by preference, the eldest living child of the family, a circumstance to be expected under the syphilitic hypothesis, but wholly inexplicable under that of struma. 7. It affects female children in preference to males, and usually occurs in families in which a large infantile mortality has taken place. 8. It occurs in all classes of the community, the well-fed and under-fed, and the residents in the most healthy situations (see

coast, &c.) as well as those of crowded cities. 9. In a large proportion of those cases in which I thought it right to make direct inquiries on the subject, I obtained a confession that one or other parent had suffered from constitutional syphilis prior to the birth of the patient. 10. In a very large majority of these cases in which I obtained information as to the health of the patient during early childhood, a clear history of the usual symptoms of infantile syphilis was given. 11. In many instances there was a clear history of symptoms of infantile syphilis having been observed in brothers or sisters of the patient. 12. Whilst, as above observed, enlargements of the lymphatic glands are unusual, other affections far more closely connected with syphilis than with true struma, such as nodes, ulceration of the palate, and erosive lupus, are not infrequent in the subjects of this disease."

While we agree generally with the author's views, we cannot concur in his belief that interstitial keratitis never occurs but in the subjects of inherited syphilis; neither can we coincide with Mr. Dixon, the senior surgeon of the Royal London Ophthalmic Hospital, when he says that it is desirable to discard altogether the old name of strumous corneitis, "and designate it by the shorter one of *syphilitic keratitis*." Last year we had under our treatment a young man, aged 20, from one of the midland counties of Ireland, with double kerato-iritis. He was tall, and well made, his teeth were well formed, and there were no scars or pits about the face, and the physiognomy was decidedly not syphilitic. The mother stated she had no miscarriage, that she and her husband had always been healthy, and had six children, who were all alive at the time. We saw this patient again this year, when his condition was very much improved; but there still remained some deposits in the cornea. Lately another case of interstitial keratitis came under our observation, of which we could obtain no history; but the boy's appearance was undoubtedly that of struma; cicatrices of abscesses and suppurated glands existed in the neck; his upper lip was very thick and projecting; the alæ nasi were also thick, and the nares wide and flattened; his teeth were well formed. These two cases were, in our opinion, purely scrofulous; they are, however, the only two we can at the moment recall as militating against Mr. Hutchinson's assertion. On the other hand, we have seen many cases of keratitis, some of which are even at present under our care, which are undoubtedly of syphilitic origin, and which we have pointed out to our pupils as such. We subjoin one of these from our rough notes.

H. M'G., aged twenty-one, was led to us, being quite blind from

interstitial keratitis White, pasty skin; large hydrocephalic head; forehead square, massive, and projecting; mouth small and puckered from old cicatrices; the two middle upper incisors wedge-shaped and notched; others slightly notched; her height was four feet three inches; the length of face, from hair of forehead to the chin, was eight inches, and the circumference of the head round the frontal eminences measured twenty-four inches. The only history we could obtain was that the mother had one other child which was still-born.

Happily the instances of affections traceable to inherited syphilis, which have come under our notice in this country, have not been numerous; so far as we can judge, from four years experience, our attention having been first directed to the subject in 1859, the proportion of such affected children is less in this country than in England.

The *treatment* recommended "consists of the cautious use of mercurials and iodines, at the same time supporting the system by tonics and a liberal diet." In all such affections we have also found the syrup of iodide of iron, as recommended by Dr. Jacob, in the treatment of strumous corneitis, a most valuable medicine; and we would specially caution against the omission of atropine, for in many of those cases where that remedy has not been used, it will be found, on recovery of the corneal disease, that the pupil has become more or less attached to the capsule of the lens.

Chapter III. treats of *Choroiditis* and *Retinitis*; as examples of which fourteen cases are adduced—eight males and six females, whose ages varied from nine to twenty-six. In eleven of these cases there was no doubt as to the patient being the offspring of syphilitic parents; one was the only living child out of sixteen, two were "suspicious," and one was the subject of both hereditary and acquired disease.

Chapter VIII. treats of diseases of the *ocular appendages* as dependent upon hereditary syphilis; of which the author remarks, that "none of these affections are, by any means, peculiar to the subjects of hereditary taint." A great majority of syphilitic infants, in addition to being fretful and restless, puny, wasted, with the features wrinkled, voice husky, and breathing obstructed, &c., are also subject to purulent ophthalmia, tender and inflamed eyelids, lachrymation, intolerance of light, &c., &c. The following case is interesting in so far as there was disease of the lachrymal apparatus in a boy the subject of inherited syphilis. A gentleman consulted

us about his child, a healthy-looking little fellow of two years of age, who was suffering from acute inflammation of the lachrymal sac on both sides. There were one or two ugly-looking small sores about the face, and the nail of the little finger was peeling off. We should not have attached special importance to these symptoms had not the father volunteered the information that he had had syphilis prior to marriage, which he believed to have been cured, but that, notwithstanding, the child had a rash and other symptoms in infancy which the medical attendant pronounced to be syphilitic. Our opinion having been asked, we did not feel justified, even under the circumstances, in pronouncing the lachrymal disease to be due to inherited syphilis. The mother of this child bore the mark of a large scrofulous abscess under the chin.

Chapter VII., on *Deafness in Connexion with Inherited Syphilis*, is a very brief one, comprising twenty-one cases, which had all been the subject of interstitial keratitis. The author observes that "deafness, in a greater or less degree, is frequent in the subjects of inherited syphilis," and that such deafness is, he believes, "due either to disease of the nerve itself, or to some change in non-accessible parts of the auditory apparatus. Its symmetry in all the cases would point to a central cause." This statement is, however, not based upon any observations of the author; for, unfortunately, he made no examination of the ears in sixteen cases, and in the remaining five he availed himself of the "special knowledge of ear diseases" possessed by his friend Mr. Hinton. As to the cause of the deafness, therefore, these sixteen cases are almost useless; for the only note specially referring to the ear is one regarding the presence or absence of otorrhœa. This symptom is mentioned as having occurred in nearly all these sixteen cases, but "in all, except one, it had quite ceased before the patient came under notice. . . . The age at which deafness is most liable to occur appears to be about the same as that at which interstitial keratitis is most frequent, from five years before puberty to five years after that period;" and the proportion of the *sexes*, in the twenty-one cases, is more than two-thirds females to one-third males. "In nine cases the patients were utterly deaf, whilst in most of the others the loss of hearing had advanced to a very considerable degree." In the five cases which were examined the objective symptoms noted were:—

1. "The membrana tympani in each [ear] was found drier than

natural, and rather too concave; but there was nothing discovered to account for the state of extreme deafness. The Eustachian tubes were pervious." 2. "The lining membrane of the meatus was covered by desquamated epithelium; and the membrana tympani was drier, and rather more opaque than usual." 3. "There was an accumulation of white, dry epidermic scales, not easily detached. In both ears the membrana tympani, although dryish and rather opaque, was entire." 4. "The membrana tympani was [in each ear] somewhat collapsed and sunken. Both membranes were also opaque and dryish;" and 5. "The ear is dry internally, but there is no other visible peculiarity."

We confess to some surprise on seeing the symptom dryness noted as an indication of disease, or as an unusual appearance in the membrana tympani. We have hitherto been under the impression that the drum of the ear was very dry, and that in order to perform its vibratory function properly there should be an absence of moisture. Apart, however, from this symptom, four of those cases indicate at least disease of the membrana tympani, and prove Mr. Hutchinson's opinion to be rather erroneous than the contrary. With respect to ear diseases in general, we are of opinion that they are analogous to eye diseases; and, judging from analogy alone, who should expect to find in these syphilitic cases inflammation of the vibratory apparatus of the ear to be the cause of impaired hearing, in the same proportion as inflammation of the cornea and iris is the cause of impaired vision. The three following cases will, we believe, confirm our view, the first of which occurred some years ago, and our note of which is:—

Syphilitic Corneitis and Myringitis.—M. A. R., a girl, aged ten, with teeth well marked, and characteristic, according to Mr. Hutchinson, of inherited syphilis. The girl presents an example of chronic myringitis, and also corneitis in right, and a few deposits in left cornea. The mother stated that she contracted syphilis from her husband shortly after marriage; that she had no miscarriage, but that five out of ten children died in early infancy; that the children, especially the subject of this note, had eruptions and snuffles. Under treatment the membrana tympani became free of vessels, and regained its polish and natural colour, and the cornea likewise became clear. This note, although defective in many respects, establishes the existence of inflammation of the membrana tympani concomitantly with inflammation of the cornea in a person the subject of inherited taint. The following case came under our observation more recently; but as we only saw it once, we have not

been able to follow it out. H. Q., aged fifteen, skin white and pasty; scars on forehead and mouth; teeth remarkably typical, the four upper incisors being wedge-shaped, notched, and grooved, and irregularly placed; the two canines are broad-based, terminating in a fine triangular point; the central lower teeth are all peg-shaped, and worn flat at their apices; there are deposits in both corneæ from old keratitis. When about six years old the boy had pain and swelling in both knees; has always occasional "rheumatic and growing pains" in the shoulders and arms. The mother had several miscarriages; the subject of this note is the younger of two living children, and had no rash or snuffles, but his sister who had sore eyes, and still has very delicate health, suffered very severely from them. When he was about ten years of age he suffered from occasional pain in the ears. After removing a quantity of soft wax and extraneous matter, we found the membranes, on the right side, very much collapsed, so that the tubercle of the malleus appeared to stand out much more prominently than it ought. The membrane below the tubercle was of a uniform red colour, and very concave, or rather funnel shaped; this condition, as well as the total absence of any attempt at vibratory motion when air was forcibly expired, with the nose and mouth closed, led us to believe that the membrane had become adherent to the inner wall of the cavity of the tympanum. The hearing, notwithstanding, was not very defective, a proof, we think, that the nervous apparatus was tolerably sound. In the left ear the membrana tympani was, to a great extent, lost, revealing the wall of the cavity to view.

The third case was that of a boy, J. K., aged twelve, who came under our care with keratitis on the right side, and in whom we found the membrana tympani, at the same side, of a pinkish colour, and resembling, in appearance, muffed glass; and the speck of light, produced by reflection, was absent. The hearing was very slightly affected. The boy's head was large and flattened; his face was old-fashioned; the upper teeth were irregularly placed, wedge-shaped, and notched; the lower ones being peg-shaped. He had a red rash when born; had snuffles, &c. The mother had chancres, for which she was treated subsequent to the birth of this child; and had three other children, who were all alive at the time we saw her.

Whether the membrana tympani is, in all cases of the deafness of inherited syphilis, the structure chiefly implicated, we cannot, from our small experience, assert; but those three, as well as some of Mr.

Hutchinson's cases, would, we believe, indicate that such was the case; and judging from them and from analogy we cannot concur with the author, when he states that "the cases constitute the analogues of syphilitic retinitis, and of white atrophy of the optic nerves"—two conditions which are, we think, of unfrequent occurrence. The following is a case of acquired syphilis manifesting itself in the membrana tympani:—Last year a railway porter had been under our care for syphilitic iritis; and when nearly well, and still partially under the influence of mercury, he complained of a "buzzing," and some pain, and deafness in one ear. The membrana tympani was of a brownish red colour, with loss of polish, and alteration in the reflection of light; towards the inferior margin there was a well marked crescentic opacity. Under repeated local depletion, and the continued use of small doses of mercury, with a tonic, the noises ceased, the membrane became, daily, paler, and finally regained its natural colour and polish, and the hearing was perfectly restored.

In his *Aural Surgery*, Mr. Wilde devotes a chapter to the consideration of "*otitis, in connexion with ophthalmia*," and another to "*strumous myringitis*," both of which we would quote *in extenso*, as bearing closely on this subject, did our space permit. He observes, "that strumous myringitis is a frequent affection in young persons. Its subjects are usually from five to fifteen, or sixteen years of age; but it may appear at a much later period. It chiefly attacks the light-haired, fair-skinned, blue-eyed, and those who exhibit well-marked evidences of a scrofulous constitution;" and again, "strumous affections of the eyes are not an infrequent complication; and these, particularly corneitis, which it very much resembles, and also strumous ophthalmia, sometimes alternate with the affections of the ear, as shall be further explained in this chapter." In these cases the tympanal membrane will be found of a uniform pinkish hue, but without either thickening or opacity, at least in the early stages.

We would suggest the adoption of the name *inherited syphilitic myringitis*, in addition to strumous myringitis, which we still believe to exist. In how far venereal disease and struma may be two names, signifying one and the same disease, we leave to others to judge; many writers have considered them to be synonymous.

The length of period which had elapsed between the date of the primary disease in the contaminating parent and the birth of the infected

child, it is from the very nature of the inquiry, almost impossible to determine.

"In one instance the mother, it appeared, had had primary syphilis only three months before the infant's birth; and in another the period was four; and in a third six months. In five cases it seemed probable that a period somewhat less than a year had elapsed, whilst in five it had been at least two years. In two, judging by the fact that the mother had borne a number of children, some of whom had showed suspicious symptoms, the date of the original disease in the father could not be placed nearer than six or seven years."

One of the series of aphorisms with which the book concludes is:—
"A husband who is himself wholly free from symptoms, and has been so for years, may yet beget tainted children." For further particulars on this subject we would recommend the perusal of Mr. Whitehead's valuable treatise on *Hereditary Diseases*, in which there is recorded, amongst other interesting cases, one of secondary syphilis, sixteen years after the primary affection, in a female whose child died of hereditary disease; and another of secondary syphilis during pregnancy, and transmission to the infant, thence through labial contact to a third party, and thence hereditarily to the fourth remove.

The dental peculiarities are illustrated by several wood-cuts, and one plate; and there is a second plate illustrative of keratitis and choroido-retinitis. The plan of the work appears to us unsatisfactory; we would suggest to the author, should a second edition of the volume be published, to compress the general comments, at present scattered through the work, into a prefatory essay, which would make the book more readable and useful.

Many and great as the evils which syphilis entails are acknowledged to be, our daily increasing knowledge and diagnostic powers may still add more to the list; and we believe Mr. Hutchinson has established the fact that certain diseased conditions of the eyes are attributable to the venereal virus, as well as pointed out almost unerring symptoms by means of which it may be recognised; and we have no doubt his work will long be esteemed as a standard one on the subject.

Practical Lithotomy and Lithotrity, or an Enquiry into the Best Modes of Removing Stone from the Bladder. By HENRY THOMPSON, F.R.C.S., University College Hospital; Consulting Surgeon to the St. Marylebone Infirmary; Fellow of University College; Hon. Corresponding Member of the Société de Chirurgie of Paris, &c., &c. London: John Churchill and Sons, New Burlington-street. 1863.

WHEN we say that we have read this book throughout, and that we have not felt *ennui*, the opinion we entertain respecting it may be anticipated. Indeed our impressions beforehand could not be otherwise than favourable, inasmuch as from the earliest period of his professional life the author has distinguished himself as a zealous student in the investigation of the diseases of the urinary organs, and has justly acquired much reputation on the subject. We learn from the Preface that his sole object is "to present a consideration of the best operative procedures now in use for the removal of stone from the bladder of the male patient," and when we reflect on the ample and varied sources from which a large portion of the practical details given are being furnished, we must admit that "the students in medicine," to whom this work is specially inscribed, are fortunate to have so very rich an addition made to their present stock of knowledge on two of the most interesting topics in surgery. Yet, even here, *in limine*, we cannot avoid the remark that, whilst valuable materials have been gleaned and acknowledged from English, from French, and from Continental authorities, Ireland has not even had a passing notice, although on the subject of lithotomy, and on that of lithotrity, its periodicals contain communications full of original suggestions, and inferior to no others elsewhere published; we would instance those of the late Sir Philip Crampton, in the first and third volumes of this Journal, as remarkable for their simple attractive style as for their practical excellence. This, to say the least, is not as it should be.

We find it difficult to give, in the limited review we contemplate, a sketch sufficient to manifest our estimate of the value of this work. Divided into its two principal sections of Lithotomy and Lithotrity, those subjects are considered under separate chapters, and prominent details of vast utility are brought under notice, connected with each. We cannot but admire throughout, the lucid exposition of those broad principles of practice, which, under the authorship

circumstances which may exercise an influence on the result each—are treated of with considerable tact and care, as chapters devoted to them manifest a large and creditable amount of clinical research. We have seen much of each of those procedures and have had a tolerable amount of personal experience in each; we have had our lateral, our median, and our suprapubic operations of lithotomy—we have operated on the child, the adult, and the aged man—we have witnessed and experienced the difficulties and dangers alluded to by our author, and the results arising from them, and we can bear full testimony as to his remarks being replete with material most instructive to the student, and most of practical bearing.

The same observations are applicable to the subject of lithotomy; the mechanical principles which are to guide the surgeon are defined, and the proper adaptation of the expedients required in different cases, explained. The array of instruments delineated under this section cannot fail to impress the reader with the due regard by the profession to the ingenuity, the industry, and the skill of the mechanists. In our own more recent operations we were fully satisfied with Weiss and Son's new lithotrite, much as represented in Fig 51; and when we were tormented with the retention of those fragments, often so obstinate and unmanageable lithotrites, figured 51 and 52, with Charriere's beautiful probe answered our purpose for removing them most satisfactorily. In some of our cases the fragmentary portions were very large, and presented those irregularities of form resulting from the physical character of the respective calculi; in all our cases, however, the fragments escaped by the unaided efforts of micturition, without the necessity of washing out the bladder, and without the use of any of those mechanical agencies which, too often, produce a considerable amount of local violence. Those passing remarks, however, should by any means, lessen the intrinsic value of the important observations entered into by our author; all should be carefully studied.

We had contemplated the insertion of some extracts from the chapters on each subject. We find we cannot do so, and do not regret it, as we rather desire to direct attention to the work itself for information on the many practical points it enumerates. We conclude with the repetition of our favourable opinion of this book. Its usefulness cannot be questioned, and we feel satisfied it will be received by the profession as a welcome contribution to surgical literature.

On the Cure of Club-foot, without Cutting Tendons, and on Certain New Methods of Treating other Deformities. By RICHARD BARWELL, F.R.C.S.; Assistant Surgeon Charing-cross Hospital; Author of a *Treatise on Diseases of the Joints*. Illustrated by Engravings on Wood. London: John Churchill and Sons, New Burlington-street.

MR. BARWELL is favourably known to the profession by reason of his valuable contributions to surgical science. His work upon diseases of the joints has established his character as a painstaking philosophical surgeon, foremost in the ranks of those pathologists who, within a recent period, have so materially contributed to the advancement of this particular branch of surgery. The nucleus of the present treatise was introduced to the profession in 1861 by a paper read before the Medico-Chirurgical Society, entitled, "On Certain Grave Evils Resulting from Tenotomy, and on a New Method of Curing Deformities of the Foot." The author, from an early period of his professional career, has paid much attention to joint diseases, and to the methods of remedying the lameness thereby produced; and, as he observes in his preface:—

"Among such cases lameness from other causes came frequently under my observation. I studied these maladies from the orthopedic point of view; and, while tenotomy was still almost a novelty in England, was so charmed with the easy change of form which, after such an operation, could be produced in most distortions, that I became an almost enthusiastic admirer of the procedure. After, however, following up, carefully, a large number of these cases, I was pained to find in how many of them the deformity, more or less, returned; in how many more a different and opposite distortion supervened; while power over the limb was actually injured or destroyed in so large a majority of instances

that its retention appeared absolutely exceptional. . . . A further study convinced me that deformities of the foot, the so-called talipes, all primarily affect the front half of the limb, and that the mechanical and after treatment of club-foot by shoes, all of which act principally on the ankle-joint, was manifestly ill-adapted for the purpose in view. This fresh insight furnished the clue which enabled me to discover the causes of the above-mentioned failures in treatment. I perceived, namely, that to fasten the sole, which ought to be mobile and free, upon a stiff iron, and to force the contracted muscles, *while at rest*, into a new posture, could only be a temporary remedy for the contraction, and must be an injurious or fatal augmentation of the paralysis, which is the 'head and front of the offending.'"

Such were the considerations that led the author to the treatment of the different forms of talipes, upon principles totally opposed to tenotomy, and suggested the substitution of a force, "which, instead of squeezing an inactive foot into, as it were, a moulded and inactive shape, should guide active but abnormal movement into its normal direction and relationship."

The treatise is divided into twelve chapters, which treat successively of:—1. The foot, its architectural structure, movements, attachments of muscles, &c. 2. Deformities of the foot, and their proximate cause. 3. Impropriety of tendon cutting, and its evil results. 4. The mechanical and after treatment. 5. My new method of treatment. 6. Flat foot. 7. Talipes valgus. 8. Talipes varus. 9. Talipes equinus. 10. Talipes calcaneus. 11. Deformities of the leg. 12. Crooked shins. An appendix is added, illustrating by cases the different chapters, which are still further elucidated by seventeen well executed engravings on wood.

In the introductory chapter a very excellent description is given of the mechanism of the foot, and of its buttresses and arches; particular notice is taken of that transverse joint, the "mediotarsal," situate between the astragalus and os calcis posteriorly, and the navicular and cuboid bones in front, just anterior to the point that supports the weight, and which, possessing a very extensive range of motion in all directions, is the articulation that chiefly confers flexibility on the member. It is further pointed out that all the tendons proceeding from the leg (the tendo Achilles excepted) are inserted into the front half of the foot anterior to this articulation, and consequently must act primarily on it, and only secondarily on the ankle-joint proper. The author regards ligamentous structures as being altogether subordinate to muscular

action in preserving the form and architectural beauty of the foot:—
 “The office of keeping up the longitudinal arch of the foot is ascribed to the plantar fascia, but fascia and ligaments are never placed as the guardians of position—this task is always confided to muscular structures; it is to the even balance of power among the muscles that the foot depends for its efficiency and form; for it is easy to perceive that a slight preponderance or deficiency of power in one part or the other would throw a limb, made up of so many nicely adjusted parts, into some false form or position.” A very important function is attributed to the tibialis anticus muscle, whose tendon hooks round the internal cuneiform bone to be inserted into its under surface, and into the base of the first metatarsal, *i.e.* the highest point of the pedal arch. “Thus we see that the construction is suspended to a sling which, attached high above it, keeps up the key-stone, and thus the whole edifice, not by an immovable ligamentous tie, but by a mobile force, which acts more or less as the occasion may require.” These doctrines are of the greatest practical importance, as will appear when Mr. Barwell’s own plan of treating pedal deformities comes to be considered. We were disappointed at finding no allusion to the strong calcaneo-navicular ligament, which, from its structure and position, must confer considerable strength and flexibility upon the inner border of the foot.

In the second chapter the author joins issue with the orthopedists as to the proximate cause of talipes in all its varieties; very few of the malformations of the foot originate in arrest of development, or congenital deficiency of the bones, they are nearly all the result of abnormality of position; and if changes of form do occasionally occur in the bones, these are only secondary. Thus pedal deformities are simply exaggerations and perpetuations of some natural position of the foot:—Talipes equinus is exaggerated extension; talipes calcaneus, excessive flexion; talipes varus, superabundant adduction; and talipes valgus, redundant abduction. Again, the highest authorities aver that club-foot, whether congenital or otherwise, is attended by spasm, or some form of abnormal contraction which eventuates in a condition of rigid atrophy, and organic change in the muscles primarily affected. Mr. Barwell’s views are diametrically opposed to this doctrine, as will appear from the following quotation:—

“Unfortunately paralysis, more or less partial and transient, or general

and persistent, is extremely common with children; we find such condition left behind after convulsions; it comes on without convulsions from irritation, intestinal, cutaneous, &c. It does not lie within the scope of this work to discuss the large range of infantile neuro-muscular disease, yet it must be permitted me to point out its two aspects; for instance how *laryngismus stridulus*, or false croup, which by some is attributed to spasms of certain muscles, is, by other authorities, and I believe with more reason, considered as paralysis of a different pair. Let it be observed, also, that the squint which may come on with other symptoms of brain mischief, or may be a permanent affection, is certainly to be more rationally regarded as want of action in the outer rectus, which appropriates the whole of one nerve (the sixth), than as spasm of the inner rectus, whose nerve supplies four other muscles of the eye and appendages. Certain also it is that some congenital deficiencies of the nervous system, whereof club-foot and club-hand are pretty constant accompaniments, as acephalosis, &c., &c., may, indeed must, produce paralysis; but there is no evident connexion between such deformity and spasm. Then, again, the legs and feet of children, even of adults, affected with talipes are always very low in temperature and power of circulation; such condition is a constant accompaniment of paralysis; a contrary state is the ordinary attendant of spasm; moreover muscular spasm, as a rule, is a very transient condition; altogether there can be no doubt but that paralysis is very much more frequently the cause of club foot than the opposite condition; indeed my opinion, deduced from careful study of many cases, is that spasm very rarely produces talipes. . . . The weakened muscles want assistance, and the way to render this in the manner which shall best aid them to overcome their deformity, and to recover from their paralysed and enfeebled condition, is the problem which surgery should endeavour to solve. Orthopedism having, as it appears to me, taken a point of view which has led into grievous errors of treatment, I have applied myself to the above inquiry, and believe that its true solution will be found in the following pages."

In the chapter "On the Impropriety of Tendon Cutting and its Evil Results," reference is made to four experiments performed on dogs by M. Bouvier, in 1842, from which it would appear, in so far at least as we may be permitted to argue from the results on these animals, that the division of tendons is invariably followed by a destruction of the action of the corresponding muscles; notice is also taken of Mr. Adams' treatise *On the Reparative Process in Human Tendons*, and an analysis given of the twelve cases of *post mortem* examination detailed therein; these cases Mr. Barwell

supposes strongly support his views as to the effects of dividing such tendons as are furnished with closely fitting sheaths—namely, that union seldom or never occurs through the medium of an intervening substance, but that the ends of the severed tendons adhere to the inside of the fibrous pulley, or to the adjoining bone, so as utterly to annihilate all muscular action.

We subjoin his analysis of the entire series:—

“The result therefore of the cases is this—that out of six divisions of the anterior tibial tendon we have two non-unions, *i.e.* in a third of the cases operated on the muscle is destroyed. In every instance in which the posterior tibial tendon, and the long flexor of the toes were divided, one or both, the action of the muscles was utterly annihilated, and of course that lameness and uncertainty of the foot, above described, must have followed.”

And certainly if we can realize in the paragraph referred to (which is subjoined) a true description of the subjects of orthopedic interference in the way of tenotomy, the proceeding inaugurated by Stromeyer, in 1832, and since so extensively practised at home and abroad by the most eminent surgeons, can scarcely be considered a boon to humanity.

“A goodly number of club-footed patients come under notice with the paralysis still continuing, a good many with the muscles still excessively languid. The patient is in one of the following conditions:—He has either too few muscles, or some of his muscles are too weak to act; and the so-called orthopedic practice of the present day is, unfortunately, to cut the tendons, and destroy the power of those organs which are still healthy. It is quite certain that if all the active tendons be divided, so that there be nothing to resist any external force, the foot can be squeezed into something like shape, but to the annihilation of its power. . . . We might consider such divisions, even under ordinary circumstances, sufficiently severe, but let us imagine it for a moment where most of the uncut muscles are paralysed, and we shall have to picture to ourselves the foot as an inert mass, hanging to the end of the leg like the swinger of a flail.”

A sentence of heavy censure is passed upon the mechanical and after-treatment of club-foot, subsequent to the division of tendons according to the orthopedic fashion. It is maintained that Scarpa's shoe, and all mechanisms founded upon the same plan, which act upon the foot as a whole, are erroneous in principle and mischievous in their effects. It is the front part of the foot in all the varieties

of talipes that is primarily and chiefly displaced—the medio-tarsal, and not the ankle joint, being the chief seat of distortion, whereas the rotating and flexing power of these implements are exercised on the ankle joint, whose position is only slightly and secondarily affected. Another, and a graver, reason is assigned against the employment of such instruments:—

“The greater number, if not all, deformities are produced by debility or paralysis of certain muscles. Now, as soon as a muscle is thus circumstanced, everything which might aid fatty degeneration ought to be avoided, for in youth by far the greater number of paralyses are curable, while such degeneration can be prevented. But orthopedic treatment appears especially designed to favour and hasten the advent and progress of this condition. The non-paralysed muscles are cut ensuring to them the most complete loss of function, while the foot is fastened upon an iron plate in such wise as to prevent any movement of the sole, therefore all muscular action; and this confinement is enforced for six weeks, or for as many months. Of course, when the foot is released, all the muscles will have been reduced to the last stage of debility, and the patient will be fortunate if fatty degeneration have not advanced far enough to deprive him of the use even of those muscles that have not been divided.”

Having so far laid before our readers Mr. Barwell's objections to the ordinary orthopedic treatment of talipes, we shall now permit him to expound his “own method of treatment.” It is conceived and founded on the following principles:—

“1st. That as the loss of balance in muscular action, which produces the deformity, is nearly always caused by paralysis of a certain set of muscles, we are to restore that balance.

“2nd. This restoration is to be accomplished by substituting a force for the weakened and paralysed muscles, and not by depriving the still useful ones of their power.

“3rd. That the succedaneum must be applied as nearly as possible in the direction and position of the paralysed organ or organs, and must act on the parts, and on those only on which the muscular force is normally expended.

“4th. Thus the foot is not to be treated as a whole, but as a compound of many bones, each of which being subject to muscular action, plays a definite part in deformities.

“5th. That since motion is essential to prevent, or overcome fatty degeneration, as well as to allow the weakened muscles to recover their power, the foot is not to be fastened to any rigid clog; but on the

contrary, each part is to be allowed movement, which is gradually to be guided by the imitative force from an abnormal into a normal direction."

Acting then upon these principles, and recognising the fact already adverted to, as to the part of the foot primarily and mainly displaced, that the distortion involves the medio-tarsal, and not the ankle joint, Mr. Barwell substitutes for the weakened or paralysed muscles springs of India-rubber, stretched accurately between their origin and insertion and along their course, at a degree of tension sufficient to supplant their weakened or supply their absent power. The insertion of the muscle is represented by a slip of adhesive plaster fixed over the place of attachment of the tendon, and its origin by a loop of wire connected with the top of a tin splint strapped on the leg, in a manner presently to be described. After supplying some apposite remarks upon the extensibility and elastic power of caoutchouc, and detailing an interesting fact, in proof of the amazing length of time these properties are maintained by this substance under extreme tension—and having given a mechanical formula whereby to determine the amount of force India rubber cords are capable of exerting, the author proceeds to describe, in detail, the different forms of club-foot—their pathological causes and prognosis, and his special mode of treating each variety of the deformity. Flat-foot is ascribed to weakness or loss of power of the *tibialis anticus*, and not as the orthopedists teach, to relaxation of the plantar fascia. It is to be cured by a force imitative of the lost action of the muscle. *Talipes valgus* is caused by paralysis, partial or complete, of the anterior and posterior tibial muscles, and not as stated in orthopedic books, by unnatural elongation of the ligaments of the sole; and the one rational indication of treatment is to restore the posture by supplying a force in place of the power whose absence produced the deformity, and this is to be accomplished by India-rubber springs acting along the course and in lieu of the muscles. *Talipes varus*, the direct contrary to valgus, is occasioned by paralysis of the *peronei* muscles, and the plan to be pursued is to aid and abet their action by the same means, and not to destroy the power of their antagonists by tenotomy, as commonly practised. *Talipes equinus* is also caused by paralysis, the affected muscles being those supplied by the anterior tibial nerve; and the same principle of treatment is enforced, namely, to supplement the lost muscular power by an artificial one, and to act primarily on the

part primarily distorted, namely, the front of the foot. Talipes calcaneus is so extremely rare that the author frankly confesses never to have seen a true example of it. Without diagrams it would be difficult to convey an accurate idea of Mr. Barwell's apparatus, and its method of application to all the forms of talipes; we shall, however, transcribe his method of proceeding in the case of the simplest pedal deformity, namely, flat-foot, and refer our readers to the book itself (which is well illustrated by engravings on wood), for the elaborate details of its adjustment in the more complicated distortions.

"First, a trapezoid piece of plaster is made to adhere with its broader portion to the inside of the sole of the foot, over the cuneiform and head of the first metatarsal bone, and extending beyond their outer edge even to the outer side of the foot. The direction of this plaster must be the same as the anterior tibial tendon; the narrower part should terminate upon the inside of the foot, just in front of the inner maleolus. This end is not to adhere to the skin, but is to be doubled down, sticky sides together, and through the twofold thickness an eyelet is to be driven. The foot is now to be held, by an assistant, as nearly as possible in the proper position, and to be evenly strapped from before backward, leaving out the end of plaster into which the eyelet was driven. We now turn to the leg: a piece of strapping, from three quarters of an inch to an inch broad, not quite three times as long as the distance from below the knee to the ankle, is made to stick firmly over the course of the anterior tibial muscle, upon whose origin one of the ends lie, the other hanging loose below the foot. The surgeon must be provided with a piece of tin, rather narrower than the long piece of strapping, and long enough to reach from the tuberosity of the tibia to a short distance above the ankle-joint. This tin, by means of two holes in its upper part, supports a wire loop, and is to be bent into a concave shape, and to be twisted a little, so as to fit roughly over the surface of the muscle. It is safer to give the lower end a little inclination outwards, so that any force, subsequently to be exerted, may not press its edge against the shin. The piece of tin is to be laid upon the strapping, whose lower end is to be turned up over the metal, and held there, while the leg is carefully strapped from below upwards. At the top of the tin a hole must be made in the strapping to permit the wire loop to come through; and I must caution the surgeon that it is necessary to fasten down, with the strapping, the little end of tin which extends beyond the loop. There remains an additional length of the longitudinal piece of plaster now lying above the rest of the appliance; this may be brought down, and for more security, made to lie on the outside of the circular straps. It will be perceived that the longitudinal piece of strapping is

arranged in certain folds, as follows :—It first adheres to the skin of the leg, then turning upwards forms a loop round the lower end of the tin, running up, with its sticky side outwards, and adherent to the inner surface of the circular straps, it thence turns round over the last transverse piece, and is brought down on the outside. By this means we have established, at the upper part of the leg, on the origin of the muscle to be supplied, a fixed point; the wire eye, supported through the medium of the tin by a loop of plaster, which takes its bearing in such a manner that no constriction of the limb can be produced, whatever downward force be exerted on the wire; now it only remains to stretch between the wire loop and the eyelet in the piece of plaster, representing the insertion of the tendon, an Indian-rubber spring of such length as shall sufficiently supply the muscle without producing undue pressure.”

It is necessary to renew and re-adjust the apparatus at the end of a week or ten days; and the average time required for the cure of such club-feet as are not of a very aggravated description, would appear to be about three months. Throughout the whole period of treatment exercise is not only permitted but sedulously enjoined.

“ If the patient be of age to walk, it is desirable, from the first, not to keep him in bed; our hopes of a permanent cure, without lameness, depend upon the muscles regaining such power as to act sufficiently strongly to retain of themselves the foot in its proper place. The paralysis in children does not continue total for any great length of time, but the muscle is very much weakened, and it is only by exercise that its strength can be restored.”

We have now to notice a novel application of chloroform, the invention of which Mr. Barwell claims for himself; and most assuredly if anæsthesia be found an effectual means of reducing these deformities it recommends itself strongly as a valuable substitute for tenotomy.

“ The time necessary for reducing the deformity in severe cases may, however, be very much shortened by the use of sudden extension under the influence of chloroform. This also is a procedure of my own adaptation to these diseases, and is one from which very great advantage may be drawn; but, I would limit its employment to severe cases, and would caution surgeons against the use of violence, since, when once the muscular power is annihilated by the anæsthetic, very little force is required to place the foot in a normal position.”

The mode of proceeding while the patient is under the influence

of chloroform, and the manipulations necessary to accomplish the purpose intended, are particularly described by Mr. Barwell. It would appear that the foot, by the method recommended, may be very quickly reduced to a nearly normal position; and, moreover, that by a combination of the two plans the deformity may be removed in a very short space of time—a month has sufficed almost to effect a cure.

With reference to prognosis our judgment must be influenced by various circumstances—viz., the amount of deformity and the change of form which the bones may have undergone—the age of the patient and the general condition of the limbs, more especially of the muscles, as respects their nutrition and irritability. In varus, the bone above all others whose condition is important is the astragalus—its position in the ankle joint and the shape of its head require close attention—although a small degree of atrophy in this portion of the bone is not an absolute bar to perfect restoration, its reduction to a mere tubercle is a very serious impediment. Speaking generally, the prognosis is hopeful, no degree of muscular contraction or distortion negatives an entire restoration of the shape and function of the limb. If the muscles be completely paralysed of course little hope can be entertained of a restoration of the power, but no decided opinion should be pronounced until their excitability shall have been tested by Faradization after the manner of Duchenne.

In the two concluding chapters the author treats of deformities of the leg—viz., knock-knee, or genu valgum, bow-leg, or genu extorsum, and crooked shins. His method of treatment consists of substituting an active resilient force for the inelastic strap and inflexible splint hitherto in use, and “is founded upon the idea of bending a straight piece of elastic steel to the same degree as the abnormal curve of the limb, and fastening it thus bent to the leg, and then removing the retaining power, so that the tendency of the spring to become straight may exert a certain and a plastic force upon the abnormal curve of the limb.” A drawing of the apparatus is given and its mode of adjustment described; however, as we have already exceeded our limits we cannot do more than recommend the book itself for the necessary information respecting all the details of Mr. Barwell’s appliances, and his manner of fixing them in these and the other deformities of the lower extremities.

Our readers are now furnished, as we believe, with the pith of Mr. Barwell’s *brochure*. We hesitate to pronounce an opinion

concerning an innovation of which we have no practical knowledge, and which has yet to be tested by a more extensive experience before its merits can be duly estimated, accordingly our notice is entirely analytical. We have derived much pleasure and some fresh views from a perusal of the treatise, and confess ourselves well-nigh converted to the pathological principles so earnestly enforced by the author. Practical surgeons there be who are of opinion that tenotomy has fully reached, if not exceeded its legitimate limits; and certain it is that very grave deformities can be cured without tenotomy; as to whether the operation can always be dispensed with is another question. The appearance of Mr. Barwell's treatise is opportune—his opinions must have weight with all impartial practitioners, and may lead to a thorough ventilation of the entire domain of orthopedic practice, which, perhaps, has remained too long in the possession of specialists.

The "tendon-cutters" (as our author irreverently styles them) get some heavy knocks, and he must be content to receive retaliation. He has flung the gauntlet among numerous and powerful adversaries, and cannot shirk the consequences.

Within our memory orthopedic science has advanced with rapid strides, and proudly points to brilliant achievements. She is now challenged to relinquish her conquests—extreme views are seldom just—sooner or later time and experience discover the "mean" and indite its formula. As impartial journalists our present position is neutral; we abide our time until we can discern more distinctly the relative position and strength of the combatants; no matter how the contest terminates truth is sure to carry off her laurels.

Royal Commission on the Sanitary State of the Army in India; Report of the Commissioners; Précis of Evidence; Minutes of Evidence; Addenda; Appendix. Two vols. Blue Book, folio.

IN the volumes now before us will be found the results arrived at by the Commission of Inquiry into the Sanitary State of the Indian Army, appointed by the late Lord Herbert. No monument of this great and good statesman more worthily speaks to his true character as the wisest friend the army of any country ever possessed. Undazzled by the splendid achievements of the national arms, he penetrated, with searching eye, to the real basis of an army's strength—its status of health and disease.

The health of an individual man is ever a fluctuating quantity, even under the best climatic and hygienic conditions. The health of an aggregate of men, constituting an army, is subject to still more constant and profound disturbances, the contact of man reacting upon man deleteriously in many respects, while advantageously in others.

This inherent defect in man, as a working or a fighting machine, in the individual or in the aggregate, has doubtless been matter of account with the statesman and the commander at all times in the history of civilized war. Generally regarded, however, as an unavoidable concomitant of man in his correlative capacity, few have sought to estimate the *normal* or *necessary* as distinguished from the actual mortality of armies from disease. In prodigal expenditure of human life the Alexanders, the Cæsars, and the Napoleons have rivalled each other, looking mainly to the ends to be accomplished at such and such probable sacrifice of life to the sword of the enemy, but little heeding that more powerfully destructive agency, death in the ranks, from disease pursuing its course silently, but not less surely. And yet it may be affirmed that in no considerable campaign which the world has ever seen, have the deaths in the armies engaged been meted out in like proportions by disease, and by the most fatal engines of destruction hitherto conceived.

The state of health, and the sanitary condition generally, of the British army appears to have deeply engaged Lord Herbert's attention, from the period of the Crimean war especially. The anomalous and excessive mortality in the troops on home stations was the opprobrium of the service. A vast expenditure of money, special conditions observed in the selection of recruits for the army, and the various resources of the service applied to their care and maintenance, only resulted in a state of health and a rate of mortality in extraordinary excess as compared to that of males from amongst the general population at the soldier's age, to that of men in special branches of public employment, and in healthy and agricultural districts. The following is Lord Herbert's estimate, from official data:—

“Deaths per 1,000 Men Yearly, at the Soldier's Ages.”

London Fire Brigade, . . .	7·0
Metropolitan Police, . . .	7·6
Navy on Home Stations, . . .	8·8
City Police,	8·9
—Average, 8·1.	

Healthy districts, . . .	7·7
Agricultural labourers, . . .	8·0
All England, . . .	9·2
Large towns, . . .	12·0
—Average, 9·2.	
Household Cavalry, . . .	11·0
Dragoon Guards, . . .	13·3
Infantry of the Line, . . .	18·7
Foot Guards, . . .	20·4
—Average, 15·9·	

The mortality of the British Guards, amongst the finest troops in the world, selected, fed, clothed, and lodged at almost unparalleled expense, was actually twice and a-half that, of Hodge, the agricultural labourer!

Sir George Lewis, in moving the Army Estimates, in the Session of 1862, stated various details showing the amendments that had been effected in the sanitary state of the British army at home; and these results, it is but just to add, are attributable, almost exclusively, to the initiatory efforts of Lord Herbert.

Miss Nightingale states:—"The mortality of the infantry serving at home has been reduced from 18 per 1,000 to 8·5, and is now *actually less* than that of the English male population at the soldier's ages, instead of being double, as it formerly was."

In Sir George Lewis' estimate the improvements effected amount to an annual saving, if extended to the whole British army, of 2,200 men—more than the complete establishment of two regiments. This result is equivalent to an addition of five regiments to the army, and would effect, if continued, an annual saving of half a million. In contrasting the ten years, from 1836 to 1846, with the years 1859 and 1860, Sir George Lewis says the deaths in the Household Troops had been reduced from 14 to 6 per 1,000; in the cavalry of the line, from 15 to 7 per 1,000; in the artillery, from 15 to 6; in the Foot Guards, from 21 to 9; and in the infantry, from 18 to 9. At Gibraltar, the mortality had fallen from 13 to 9; at Malta, from 18 to 14; in the Ionian Islands, from 16 to 10; in Canada, from 17 to 10; at Bermuda, from 35 to 11; in Jamaica, from 60 to 17; and in Ceylon, from 39 to 27.

When thus much had been accomplished for the Queen's troops, time it surely was that the state of the Indian force should be fully inquired into, its sanitary state fully investigated, and similar

remedies applied to raise it, in point of effective hygienic status, to a level somewhat similar to that to which the other branch of the service had been brought.

It was long known that Indian service was attended with a high rate of mortality; but with many this was taken as a necessary consequence of the new climatic and other conditions, to which the soldier became exposed on landing in India.

By all but a few enlightened men it was believed that if we were to retain our rule in India it must be at the sacrifice of large numbers, not alone to the sword of the Maharatta or the Sikh, but to the fell influences of climate. To few, indeed, was it known how tremendous was this sacrifice—greater than ever idolator conceived should be immolated to the manes of Juggernaut. To still fewer, if, indeed, to any, in its fullest sense, was it at all known that the sacrifice was as vain as unnecessary, and as heinous a waste of human life in the one case as the other. And yet such are the revelations which Lord Herbert's commission discloses to us. If we stand aghast at a sacrifice of 21 per 1,000 amongst the chosen troops of England in the barracks of the Guards, what shall we say to a mortality which is proved to have swept off 69 out of every 1,000 men in several stations of the British army in India?

And here it will be necessary to follow, somewhat in detail, the steps of the inquiry held by the Indian Sanitary Commission. In the words of the Commission:—

“The inquiry in which we have been engaged has been one of unusual extent and duration, and, from its nature, has led to considerable delay in preparing our Report. We had, in the first place, to lay the foundation of our inquiry by an elaborate examination of the available statistical and sanitary documents in the India House. In doing so it was found, at the very beginning, that we could not arrive at our object by taking oral evidence only, and that it would be necessary to carry out a preliminary local inquiry at all the Indian stations before a true estimate could be formed of what were the real conditions of the problem with which we had to deal. With this view a series of printed questions was drawn up, and sent to all the stations, to be there replied to, and signed concurrently by the commanding, engineering, and medical officers. We had to await the results of this part of the inquiry; and as on some important statistical points the replies from two Presidencies were incomplete, we called for further information, which has not yet been received by us. This, together with other engagements of members of the Commission, has led to considerable, but unavoidable, delay, which we are grieved to say has

been increased by losses which the Commission has sustained since its first meeting. The late Lord Herbert, who was our first chairman, was compelled by official occupation, and latterly by declining health, to suspend the meetings for some time. Previous to that period Sir Robert Vivian had been obliged by his other duties to resign as a member of the Commission; and we had further to deplore the death of Mr. Alexander, the late Director-General of the Army Medical Department. To supply these losses, Dr. Gibson, the present Director-General, and Colonel Durand, since called to India, were added to the Commission, and Lord Stanley consented to succeed Lord Herbert as chairman."

The strength of the British army, on the 1st April, 1861, was 227,005, officers and men; of these numbers 82,156 were in India at that date; but in the previous year the troops in India were 94,829. Four regiments out of eleven were serving in India; and if this proportion were maintained, and every regiment to go in turn, it will be exposed 10 years in every 27½, or 4 years in 11, to the influences of Indian climate and service.

After sketching the territorial distribution of the troops in the Indian provinces, the Report proceeds to consider the mortality, which the evidence shows to have reached a figure of appalling proportion. Thus, in summing up the results of this portion of their statistical labours, the conclusion is arrived at, that "in the 57 years—1800–56—in all the Company's non-commissioned officers and men, including invalids in India, the deaths amounted to 40,420, out of an aggregate of 588,820 years of life, obtained by adding up the average annual strength in these years; so the annual rate of mortality has been 69 in 1,000 during the present century." As the period included in these observations embraces the Maharatta, the Pindaree, the Burmese, the Affghan, the Scinde, the Sutlej, the Punjab, and the Chinese campaigns, it would naturally be concluded that death in the field entered for a large share in this surprising mortality. The researches of Sir Alexander Tulloch, however, conclusively show that while from 1817 to 1855, inclusive, the mortality was 70 per 1,000, not more than 10 of the 70 annual deaths per 1,000 were assignable to the weapons of the enemy.

The mortality, it is quite true, has not been constantly that now stated. Thus, in 1770–99 it appears to have been as low as 55 per 1,000; in 1852 it was down to 41 per 1,000; but, per contra, in 1804 it was as high as 134 per 1,000!!! for the period 1800–29 it was 85 per 1,000!! from 1830 to 1856 it fell

to 58 per 1,000. The Commissioners conclude that since the first occupation of the country by the English troops the mortality has oscillated round 69 per 1,000. Let us bear in mind that the Indian soldier is a picked man; and even though exposed to unfavourable climatic influences, he is in other respects cared for as no average man of our home population is. Yet in the most unhealthy town districts of England the average mortality is but 12 per 1,000, and this in the unhealthiest trades; while the general mortality of man at the soldier's age, in the healthy parts of England and Wales, is but 8 per 1,000.

If, then, we deduct 10 per 1,000 for the deaths by the weapons of the enemy, and further, say, 10 per 1,000 as the average of those who would be removed by natural deaths, we have yet 49 deaths per 1,000 of the troops serving in India (taking the average of 69 deaths per 1,000 over a series of years) to account for. Does the climate of India imperatively demand a sacrifice of 50 men out of every 1,000 whom we land upon its territories? Are we to regard this as the human tax levied upon the flower of our male population by an insatiable Atys, as the price of England's tenure of the heritage of the Hindoo and the followers of Bramah? Is one out of every 20 picked men whom we send to India, at infinite cost, to be sacrificed within the year; and this over and above the quota of him that is to be slain by the enemy, and him likewise who is to fall by the same death-chance as would overtake him at home?

Dr. Farr puts the result in a still more startling point of view. The mean after-lifetime, or, as it is sometimes called, the expectation of life in India at the age of 20 is but 17·7 years, while in England it is 39·5 years; thus life is shortened by 21·8 years. The annuity on a soldier's life in India, at the age of 20, is worth but 12 years' purchase; the same individual at home could secure 10 years' additional purchase-money. The after-lifetime at the age of 40 is 15 years by the Indian table, 22 years by the table of Indian pensioners resident for the greater part in England, and 26 years by the English life table.

In all these points of view we see that life is wasted to an unparalleled extent in India. That this need not be so the Report before us furnishes abundant and conclusive evidence. Perhaps in no respect are received opinion and fact more in opposition than as to the effect of acclimation on the soldier's health and the mortality of troops. It was very generally held, and is still believed by many, that the constitution of the European becomes year by year more

and more inured to the deleterious influences of climate, and more able to resist its fatal effects.

The diseases of India which prove so destructive to the British soldier are fevers, dysenteries, diseases of the liver, and cholera—"the fevers" and "the fluxes" of the older authors—with the addition of maladies of the liver.

Of the extent to which fever prevails some idea may be formed from the evidence of Sir Ranald Martin, who states that out of a British force of 25,431 men serving for eight and ten years in Calcutta, Chinsurah, and Berhampore, all in Bengal Proper, 13,596 cases of fever occurred; in the upper provinces of the same Presidency, usually regarded as healthier, and with diseases of less severity, out of an average of 23,731 men, serving there during seven years, there were 14,159 cases of fever. The same authority estimates that, throughout India, 50 per cent. of all the admissions into hospital are due to fevers; and that in the Presidency of Bombay 40 per cent. of the total deaths amongst persons of all classes, castes, and countries are due to fever. Dysentery plays the next most important part; and out of a force of 25,433 men in the Bengal district, there occurred 8,499 cases of this disease. Again, in the Madras Presidency, "out of an aggregate British force of 82,342 men, serving there from 1842 to 1848, there occurred 10,531 cases of dysentery, and 9,189 cases of diarrhea, making a total of 19,720 cases of bowel disease, exclusive of cholera." It is important to note that Sir R. Martin states that 11 cases of dysentery occur in the British troops for one amongst the native soldiery. It is to be regretted that we find no reliable pathological data for determining the nature of the affection so extremely prevalent under the head of diarrhea. Anatomical details and the true pathological significance of this affection are a great desideratum. The results of the Pathological Commission of Inquiry in the Crimea show us that in numerous instances cases returned as "diarrhea" proved, on *post mortem* examination, to be the result of the enteric lesion of typhoid fever.

It is in India alone that hepatic disease rises to numerical importance. Still following the evidence of Sir R. Martin, we learn that of an aggregate force of 211,993 men, serving in Bengal from 1812 to 1832, there were 14,015 admissions into hospital for affections of the liver, of which 924 died; and again, from 1833 to 1854, in an aggregate force of 331,775 men, in the same Presidency, there were 18,765 admissions under the head of liver disease, with

1,345 deaths. Out of every 100 deaths of Europeans in the Bombay Presidency, between 1830 and 1846, the deaths from the four great epidemic diseases were as follows:—

Fevers,	23·054
Dysentery and diarrhea,	32·441
Diseases of the liver,	9·597
Cholera,	10·320

Amongst local diseases apoplexy is recorded as the most fatal—three deaths per 1,000. But more special details seem to us to be a-wanting in regard to this and other cerebral diseases. Deaths by wounds in India, many will be surprised to learn, average less than the deaths by violence amongst the civil population in England! being 0·8 per 1,000 in the former case, 1·0 per 1,000 in the latter. Out of 9,467 men dying amongst regiments in India, prior to the mutiny, only 586 were killed in action or died of wounds. All evidence goes to show that the mortality in India is chiefly due to disease, and in but small degree comparatively to the arms of the enemy.

But it is not by the death-rate alone that we can estimate the full effects of disease in putting *hors de combat* a large proportion of the British army. Experience at home would seem to show that 1,000 soldiers will furnish on the average 1,000 cases of sickness per annum, or only one case per annum per man. In India this is more than doubled. Thus, from a return furnished by Dr. Balfour, it appears that 16,850 troops of the line in Bengal furnished the hospital with 172,388 cases of disease in the five years 1850–4, with a mortality of 4,461. A battalion of 1,000 sent annually 2,045 cases to hospital. Of the cases just cited 75,535 were fevers, with 918 deaths; and 32,771 were cases of disease of the stomach, liver, and bowels, of which 2,517 were fatal.

An illustrative table shows that on an average, in the stations of Bengal, 84 men out of a battalion of 1,000 were constantly in hospital; of these 69 die annually.

“With this amount of sickness,” remark the Commissioners, “an army of 70,000 British in India has, so to speak, a vast hospital of 5,880 beds constantly full of sick, and loses yearly by death 4,830 men, or nearly five regiments.”

In a financial point of view the sickness and mortality of the British army in India constitute a subject of vast moment. The military expenses of India for the years 1856–57, after deducting

for the local civil corps, are given at £13,156,473! with a total of about 54,125 troops in the pay of the Indian Government; and it is assumed that the cost of the soldier is £100 a-year. As the cost of the sick is not less than that of the effective soldier, we have an item of £588,000 per annum for the sick of the Indian army; and, deducting £200,000 for 2,000 supposed to be cases of inevitable sickness, the Report assigns £388,000 per year as the cost of preventable disease amongst the troops on Indian service, which, in ten years, at compound interest, would reach an enormous sum.

The average mortality amongst the troops at home may be now taken as 9 per 1,000; in India it is in the astonishing proportion of 69 out of every 1,000 men.

Out of 73,000 men it is found that 5,880, nearly *one-twelfth*, are constantly in hospital, equivalent to a permanent subtraction from the force of the Indian army of *six* regiments out of 70; while it is further shown that nearly always *one-third* of the army is labouring under syphilis in some form, and cannot be considered as fully effective or *enduring* troops; and it would be difficult to calculate what ultimate loss to the service is entailed as the consequence of this disease.

To take another and striking view of the question: to maintain the Indian service at par—taking its average strength at 80,000 men—as to the number and efficiency of its troops, we require an annual export of 10,000 recruits, of which at least half go to replace those who have died in the year, and almost as many more to take the places of those sick in hospital.

Two per cent. is assumed by the Report as the highest necessary mortality in India, while it is now all but seven per cent.; and one-twentieth, it may be assumed, of the troops in India die of preventable disease!

While the mortality of the men is at 69 per 1,000, that of the officers is 38, and of the civil servants 20. The rate for Company's officers has varied from 31 in the Bengal Presidency to 39 in Bombay, and 45 in Madras. That for the officers of the Royal army has been 34 in Bengal, 33 in Bombay, and 36 in Madras.

In the 20 years, 1814–1833, the East India Company had serving in India 4,219 officers, amongst whom 3,194 deaths occurred, or at the annual rate of 38 per 1,000. The Royal army had, in the same period, 1,079 officers, amongst whom the deaths were 742, and the annual mortality 34 per 1,000. Of 3,936 officers who died, 1,060 would, in all probability, have died at home, and but 122 were killed

or died of wounds; consequently twenty times as many died of disease as of wounds, which they would not have, in all probability, encountered at home.

The insalubrity of Indian life becomes a financial loss to the officers in regard to life insurance; at the age of 30 the annual premium to insure £100 at death is, in England, £2 4s. 10d., for the officer on Indian service, £4.

In striking contrast with the mortality of European troops is that of the native soldiery. Colonel Sykes concludes the mortality of the native troops in the three Presidencies to be at the rate of 18 per 1,000, the ages of the men ranging from 18 to 45. The ascertained mortality in Bombay was 13; in Bengal, 18; and in Madras, 21 per 1,000. The Report assumes a general mortality for native troops of 20 per 1,000. The diseases which prove fatal amongst the native troops are the same as those which decimate the Europeans, viz., fevers, dysentery, cholera. Of the less important diseases, syphilis is greatly inferior, as a cause of admission to hospital, in the native as compared with the European troops; thus the former supply but 23 per 1,000, while the latter furnish 192 per 1,000 admissions from syphilis.

While the mortality of the native troops is 20 per 1,000 as an average, it is less than 10 in healthy stations. It is worthy of note that the native's chances of life are improved by the service, while those of the European are diminished. Thus, though census returns and the registration of deaths are but in a very incomplete state with regard to the native population generally, there seems good reason to believe that the death-rate is extremely high. Dr. Strong has shown that amongst the natives of all ages the mortality was at the rate of 51 per 1,000—the Hindoos dying at the rate of 57, the Mussulmans at the rate of 35 per 1,000. The mortality fluctuated in 11 years from 37 to 81.

The native soldier is, we are informed, usually married; lives in his own hut, constructed at a cost of a couple of rupees; has the advantages of family association, and, as a rule, never tastes meat, fish, or spirits, and lives almost exclusively upon unleavened cakes of wheat-flour, daily baked in an iron dish, and washed down with water; further, he constantly sleeps outside his hut.

A glance at the varying returns from different stations will be of interest. Trichinopoly, in Southern India, may be regarded as the hottest station. The mean temperature of the latitude, according to Mr. Glaisher (whose services the Commissioners secured to discuss

their meteorological data), is 82° , the sun being nearly vertical in winter; 41 out of 81 deaths in the 84th Regiment, at this station, were due to zymotic disease. The mortality per 1,000 was 44 for 19 years, 31 for 11 years, and 20 for the 4 years 1850–3. On the Malabar coast, with a rain-fall of 140 inches, the mortality was 21 per 1,000; at Bangalore the cavalry died at the rate of 17, the infantry at the rate of 24 per 1,000. At Belgaum the mortality has varied from 41 to 19 per 1,000; at Kirkee, above Bombay, from 19 to 6; at Poona, a town of 8,000 inhabitants, from 34 to 6; at Deesa, from 26 to 20. Stations in the vicinity of large cities are invariably unhealthy, and the mortality is certain to be found above 20 per 1,000. At Hyderabad, a regiment 753 strong, died at the rate of 64 per 1,000 annually; in one year, it is stated, *a third of the force perished*; and in 30 years (1804–33) the deaths, chiefly by dysentery, amounted to 1,435. The barracks in an unhealthy locality—Secunderabad—were rebuilt on the same sites, and the mortality continued as high as 37 per 1,000 in the years 1837–58; and in this last year it is stated 104 of the First Royals died, out of a strength of 1,098! The officers lived in detached bungalows, and their death-rate rarely exceeded 20 per 1,000. For a period of 23 years the mortality at Bombay and Calabar is given at the rate of 63 per 1,000. But it is at the stations on the Ganges we must look for the highest rate of mortality. The death-rate amongst the infantry at Fort William was at the rate of 102 per 1,000! while at Dum-Dum the mortality was 77 per 1,000, and at Chinsurah 54 to 70. For 22 years the mortality at Dinapore was 78; at Cawnpore it was 91 per 1,000 for seven years.

The history of the 29th Regiment in the most conclusive manner proves the case of disease *versus* war, and its unquestionable superiority as an agent in destroying life:—

“The 29th Regiment of Foot arrived in India on July 29th, 1842, and it was stationed at Chinsurah, where it lost 106 men before April 1st, 1843. Proceeding to Ghazeepore, it lost 158 men, and 260 men respectively in each of the next two years. Its valour was not extinguished by disease, for 141 of the men were killed and died of their wounds in the Sutlej campaign, and 48 in the Punjab campaign. These terrific losses were, however, exceeded at Chinsurah and Ghazeepore before it had seen the enemy. This was one of the regiments that brought discredit on Kussowlie. It lost 1,061 men by death in India before it embarked for England, on September 30, 1859. The mean rate of mortality during

the 17 years was 95, or, exclusive of those killed and those who died of wounds, 86 in 1,000!!!”

At Lahore the mortality was at the rate of 81 per 1,000 for infantry, 56 for cavalry; at Ferozepore, 80 per 1,000 for cavalry, 56 for infantry. In Peshawur the mortality was 61 per 1,000 of the mean strength.

The Report sums up the evidence on this part of the inquiry as follows:—

“1. The English troops in India, by the returns of 1861, consisted of 8,324 officers and 76,684 non-commissioned officers and men, making in the aggregate an army of 85,008 men. The annual expenditure on the army of India has been at the rate of £100 a man.

“2. The mortality of the officers in India has hitherto been at the rate of 38 men per 1,000, which is 28 higher than the English rate of mortality. Of the sickness there are no returns, but it is admittedly as excessive as the mortality.

“3. The mortality of the non-commissioned officers and men during a long series of years has fluctuated, and has been, on an average, at the rate of 69 per 1,000. The mortality of men in England, at the soldier's age, is at the rate of 9 in 1,000. Sixty in every 1,000 men were killed annually in India by the causes then in operation—the numbers slain in battle being few compared with the deaths from fevers, dysentery, liver disease, and cholera. About 84 per 1,000 men were constantly inefficient and in hospital from the sickness induced by thousands of attacks of disease, including a large proportion of venereal cases.

“4. The excess which has hitherto been observed in the mortality of India is in every station due to nearly the same zymotic diseases. These diseases were for centuries equally fatal in the cities of Europe. In Europe they are still prevalent under the same circumstances, and they are generally most fatal in the summer, when the sun is not so hot as in India, but is above the horizon a greater number of hours.

“5. The experience of the civil service, of the military officers, of their wives and children, of the English troops in many stations, and of the native troops, proves that in the present state of India the mortality of the English troops there can be reduced to the rate of 20 in 1,000.

Next to the question of topography and climate, recruiting, and the influence of the passage out to India, the duties of the soldier, and the subject of acclimation, on all which the amplest details are furnished, the *causes of disease* are considered.

Some of the great agencies operating in the production of disease in India are, doubtless, irremediable. Such are the meteorological

conditions of heat, direct sun action, winds, &c.; others, such as are concerned with natural or artificial irrigation, with the development of marsh miasmata, admit of remedy only by the adoption of engineering works of vast extent and immense cost. Sir R. Martin states that, "taking any one cause, he should say that the union of heat, moisture, and malaria constitutes the most powerful one in destroying the European soldier's health, and conducing to his fall by disease;" and he believes that "a certain amount of destruction and deterioration of European health must result from a residence at the stations on the plains, even if the soldiers were put into palaces." Drs. Colvin Smith and M'Lennon concur in regarding climatic influences, intemperance, and sexual disease as the most potent agencies in producing sickness and mortality amongst the troops in India.

A careful examination of the vast body of evidence, with regard to the sanitary state of the various stations, towns, and bazaars, the habits of the troops themselves, and of the native soldiers and population must, we conceive, convince the unprejudiced inquirer that the causes of the sickness and mortality of the troops, both native and European, and of the native population generally, in the vast majority of instances, are of a remediable kind; and that in this, as in so many other instances, neglect of sanitary laws is followed by the scourge of epidemic and endemic disease.

The second volume issued by the Commissioners comprises a mass of evidence, in the shape of reports from the individual stations of the British army in India, abounding in details of the most exhaustive character. It is the *post mortem* of India—in documents of incontrovertible authority, signed by the commanding, medical and engineering officers of the several stations. In several instances we find further special reports, by individual medical officers of particular districts, remarkable, in more than one instance, for most able statements and enlightened views.

In a succinct recapitulation the Commissioners condense the results of their general inquiries—the substance of which may be given as follows:—

The great diseases of India which produce the extraordinary mortality, sickness, and inefficiency of the troops, are, fever, dysentery, cholera, and diseases of the liver. They are, in great part, attributable to malaria, in conjunction with extremes and variability of temperature and moisture; but, likewise, to the insalubrious condition of the stations; ill-placed and ill-constructed

barracks and hospitals; total disregard, in the majority of cases, of all attention to sewerage, ventilation, removal of offal and refuse; and to the habits of the men themselves—excess in eating of animal food and intemperance, as well as sexual indulgence, and the relaxation of mind and body consequent on the idle hours which hang so heavily on the soldiers' hands in India, and are thus a prolific source of evil in all forms.

Many of the stations are low, damp, unwholesome, on river banks, and, often, close to towns or native bazaars, in the most shocking state of filth. These towns and bazaars in the vicinity of the lines are, by numerous authorities, described as being in the most horrible sanitary state—undrained, unpaved, ill-cleaned; often teeming with the foulest and most dangerous nuisances. Tanks, pools, and badly-constructed surface-gutters, containing ordure of all kinds and foul water; the houses or huts, built with no regard to order or regularity, and wholly devoid of the commonest appliances for decency; the houses ill-ventilated and over-crowded; no public or private latrines; and the ground on the surface, or in shallow pits, covered with human excreta, and refuse of all kinds. Cholera takes its origin in these towns and bazaars constantly, and then extends to the European lines. Subsoil drainage is unknown; and the rainfall—often of extraordinary amount—fills the pits and hollows with foul, stagnant water. Barracks and hospitals are, in general, built close to the ground, and the men are thus exposed directly to the noxious effluvia and damp from the earth. The ventilation is either excessive or defective. Over-crowding is common in barracks and hospitals; and the space and area per bed are much too small in general. Wooden shutters too often take the place of glazed windows; and the rooms and wards are, consequently, either in darkness or exposed to injurious drafts.

Four, and even six, rows of beds are often found ranged between opposite doors and windows. Barracks of great longitudinal extent exist, with rooms some hundreds of feet in length, and, it is said, occasionally containing from quarter to half a regiment each.

The water supply has, in general, been taken from sources which have not been analysed, and which, indeed, in some remarkable cases, required no analysis to ensure their condemnation, so manifest were the impurities. In one case the body of a Hindoo was found in a tank. In numerous instances the water sources are exposed to constant contamination from the surface drainage—

polluted by latrines or foul refuse, lying above ground in a state of putrefaction. "The stench is at times overpowering," say the abstracts; "the ground, for miles about, one immense privy." Water is occasionally brought in skins; but there is no provision for purifying or filtering the supply for drinking, culinary, or other purposes. The question of water supply the Commissioners indicate as "a cardinal defect" at the Indian stations. Accommodation for personal ablution and baths is of the most scanty kind, and is often not provided at all.

The privies and urinals are of bad construction; the contents are removed by hand, by native carriers, often producing great nuisance. There is no drainage to privies, urinals, ablution-rooms, or cook-houses—all is carried away by hand. The cook-houses are imperfect and bad, though the natural talent of the native, as a cooking animal, makes up to a considerable degree for these deficiencies; at least complaints are not made of the cooking, though we believe, in many important respects, it is not free from objection.

The hospitals are little or no better than the barracks; they are defective in ventilation, bath and ablution accommodation, latrines and urinals, drainage and water supply; there are no trained attendants for the sick; the bedsteads are too often of wood, and the mattresses not of hair, of which alone they should be made.

The rations of the soldier are good as to quality, but we think in point of quantity, and want of variety, they are open to grave objections; no difference is made for the hot or cold season; there is too much animal food, and too little vegetable; and mutton is not a sufficiently constant element of the food. In hospitals the want of a dining-room for convalescents is much felt; the present system of patients taking their meals in bed on their knees, and, perhaps, in close proximity to a dying man, is highly objectionable.

Flannel is recommended for under-clothing; and in a country so liable to vicissitudes of temperature and moisture, its use would be attended with the best results. Complaint is made as to the system of supplying the soldier with boots.

All evidence goes to show that the use of spirits is injurious to the soldier; it injures him in body and mind, promotes other excesses, and is a cause of the spread of syphilis. We do not think the report deals with the subject as boldly as it should, nor are its reprehensions at all commensurate with the extent of the evil which intemperance entails. Spirits are sold in the canteens under

certain regulations; and this practice is kept up on grounds, not one of which bears a moment's thorough examination. It is urged that if the soldier did not get good spirits at the canteen he would be induced to go to the bazaar for bad. If this be true in some instances, it is no less true that the use of raw undiluted stimulants causes a craving for more; and the man who, perhaps, would not have thought of it unless his appetite were excited by the authorised dram, ends intoxicated in the bazaar. Yet complete, is far easier than partial, abstinence. That the men profit indirectly by the gains of the sale of spirits in the canteens, is no argument whatever in favour of the system. We should gladly see the total suppression of the issue of a spirit ration, except under special circumstances of night exposure, and by the direct recommendation of the medical officer. If sold in the canteens at all it should be in a diluted form, never as a raw dram. In the recommendation of the *moderate* use of malt liquors and light wines we entirely concur. But there is evidence of the most unquestionable character on record to show that the over-indulgence in rich malt drinks, especially porter, produces a soft, morbid, plethoric condition of the system, unfavourable to the maintenance of hardy and vigorous health, and causing the patient, when attacked by disease, to succumb readily to its influence. The use of sound light wines we are disposed to think would be attended with great benefit; and while on this topic it occurs to us to suggest the possibility of the culture of the vine being carried out in India with success. Within such ranges of latitude and temperature, it admits of hope that suitable localities may be found for the growth of a good and productive grape, and the manufacture of a light, but sound and wholesome wine.

The facilities for recreation are few, while the means of exercise and instruction are too limited. The soldier's habits become sedentary; in consequence of the heat he is restricted from going out of doors at mid-day, and dawdles about the common sleeping room, or soaks on his bed; his life is one of sameness, weariness, and *ennui*. Is it to be wondered at, that without even the employment of attending to his own wants—for his dinner is cooked and served for him by natives, and the punkah to ventilate his barrack-room is worked by natives—he falls into evil habits of mind and body, and when his time for going out arrives he seeks the bazaar or the canteen, and becomes the victim of syphilis or delirium tremens.

There is a total want of any means of bringing the influence of

men trained in sanitary knowledge to bear in the prevention of disease; there is no sanitary administration; and so far from barracks and hospitals being built on sound sanitary principles, their construction is often in direct violation of all the known laws of sanitary economy.

Hill stations have been a long time in use, and not without advantage to the troops there stationed or removed thereto for the benefit of health. It is almost incredible, however, with what little judgment many of these stations have been selected, and in what an insalubrious condition they have been allowed to remain; and in many of them serious disease and mortality have been the consequence. Sir John Laurence states that he saw cholera raging there "in a magnificent climate, a beautiful site, and fine barracks; and there was nobody else sick but the soldiers." Out of 254 men in barracks, 42 were attacked, of whom 21 died with cholera; no officer suffered; and it is only to be concluded that the men were exposed to causes operating exclusively on them.

At Landour, 7,000 feet above the level of the sea, the mortality was, for 10 years, after excluding the invalids, at the rate of 61 in 1,000.

The general conclusion, however, is in favour of hill stations; but, for strategic reasons, Sir John Laurence and Sir Charles Trevelyan concur in thinking that not more than a third of the Indian forces should be so located. Alternation of service would enable the entire force, however, to benefit by the change from the plains to the hills. Stations on the plains and slopes of India up to 1,500 feet, and on the elevated coasts are shown by the evidence, to be salubrious; but they cannot continue so if the sanitary arrangements of the troops and attendant native population who always follow in their wake, be neglected, or left to the choice of the men.

In considering the various questions which arise on the perusal of these volumes it will require little argument to show that the first great steps in sanitary reform in India must commence in the stations. In the local reports we have laid bare a state of things which, in the most temperate climates of Europe, would necessarily generate a never-failing supply of endemic and epidemic disease. Our surprise must therefore be great, not that so much disease and mortality are found in India, but that the results are not of still more fatal character.

Sewerage, surface-drainage, ventilation, water-supply, means of
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personal cleanliness, and a proper system of urinals and latrines, have to be inaugurated in almost every station of the British army in India. Besides which, sanitary control and the introduction of the appliances of civilized life have to be enforced on the native populations, which swarm in bazaars and villages in the neighbourhood of settlements of the British forces. Unless we have continually present to our minds the picture offered to us in the statistical reports of the foul condition of the camp, the barrack, and the attendant native bazaar, we shall fail to realise the crying necessity which exists for a radical sanitary reform in all that pertains to the life of the soldier in India.

It is not, however, in the remote plain or hill-side station that such reform is alone needed. Abundant evidence is furnished of the insalubrious condition of the great, central cities—the seats of former native power, and present British rule.

A special sanitary commission for each Presidency, with ample powers to enforce its recommendations, is demanded; and its institution should not be delayed. To each such Presidency commission we would desire to see attached men specially trained in sanitary science, and bringing, from Europe, the most recent knowledge in its several departments. At the central seat of Indian Government should be permanently located a Board of Supervision, having control over all the Presidential and stational sanitary operations; and comprising a general officer, selected for special acquaintance with sanitary subjects, a medical officer of highest rank, a military and a civil engineer, of equally high grade.

To ensure for India a participation in the active progression of European sanitary science it would be necessary that a constant and direct connexion should exist between the central sanitary authority in India and that which, we trust, will be, ere long, established at home.

To all enlightened men, and to all who become acquainted with the state of things which these volumes reveal, the conclusion is inevitable that the sanitary state of the army becomes a question of the highest national importance from every point of view in which it can be regarded, and in all steps of the scale—from the philanthropic to the financial. To some minds it will be not the least forcible argument that want of sanitary provision entails unnecessary diseases which, by sickness and mortality, cause an annual loss of nearly half-a-million sterling.

It is impossible in our present limits to do justice to the vast

body of evidence which the reports contain without extracts of great length; and few persons will, perhaps, have the moral courage and perseverance to face the perils and labour of volumes of nearly one thousand closely-printed pages each.

Fortunately the general reader is supplied with a most lucid summary of the entire evidence, with a running commentary, and incidental observations of the highest value, from the pen of Miss Nightingale, to whom the materials were submitted by the Commissioners before the publication of their report.

When in the history of the gifted and the good it shall be told to after times that in the same age the British army received the fostering care and occupied the combined labours of a Sidney Herbert and a Florence Nightingale, all shall exclaim—happy the time and the nation that witnessed such things and possessed such servants. Shall the age and the nation have worthily accomplished their work?

Medico-Chirurgical Transactions. Published by the Royal Medical and Chirurgical Society of London. Second Series. Vol. XXVII. London: Longman, 1862. 8vo, pp. 497.

THIS volume contains twenty-four papers. The first is by Dr. Robert Lee, *On the Discovery of the Original Obstetric Instruments of the Chamberlens*, and gives an interesting account of a visit Dr. Lee paid to Woodham Mortimer Hall, the estate, in Essex, purchased by Dr. Chamberlen, and to the tomb of Dr. Peter Chamberlen; but does not contain any new fact unknown to the readers of Dr. Churchill's *Essays on Operative Midwifery*. The second paper is *On Certain Grave Evils attending Tenotomy, and on a New Method of Curing Deformities of the Foot*, by Richard Barwell, and has since been expanded into a separate treatise, of which we give, at page 379, a full analysis. The next paper is a description of an unusual *Congenital Malformation of the Eyes in Three Children in One Family*, (irideremia totalis) or deficiency of the iris.

IV.—*Observations on the Division of the Gustatory Nerve, and on Ligature of the Lingual Artery in the Treatment of Cancer of the Tongue*, by C. Moore, Surgeon to the Middlesex hospital. This paper is written to recommend the division of the gustatory nerve as originally suggested by Mr. Hilton, in 1850, but

since forgotten or overlooked. The advantages Mr. Hilton looked for were as follows: of which the first three were obtained in the cases now recorded and lasted a month, but no ligature having been applied the fourth was not tested:—

“ 1. To destroy the sensibility of the ulcer, so as to enable the patient to take food.

“ 2. To reduce the flow of saliva, which was very distressing.

“ 3. In the hope that the pain experienced over the distribution of the fifth nerve might be immediately relieved.

“ And, 4. To render the operation of sloughing off the diseased portion of the tongue by ligature void of pain.”

Mr. Moore has repeated the operation five times, and formed a high estimate of its value, and is convinced that much suffering would be alleviated if the safety and facility of the operation were more generally known. We extract his description of the indications for the operation, and of the mode of performing it, merely adding that at the publication of Mr. Hilton's original paper we convinced ourselves, on the dead subject, of the ease with which it could be done:—

“ In deciding on the employment of this remedy, it is important to discriminate between the various sources of the pain in cancer of the tongue. There is the darting, electric pain in the tumour itself. There is the sensitiveness of the cancerous ulcer to all contact with the teeth, or with matters taken into the mouth. There is the suffering due to the ceaseless movements of this muscular organ, and to those of the jaw, when the tongue is adherent to it. There is the anguish occasioned by the encroachment of the disease upon the nerves, and sometimes by their ulceration and exposure. The parotid region, that of the ear, the temple, and the crown of the head, are sometimes as much complained of as the tongue itself, for the fifth nerve sympathises through many of its branches with the irritation of its gustatory portion. The glosso-pharyngeal and the sympathetic nerves have doubtless likewise their share of pain. At the same time the salivary glands, stimulated by the irritation of the fifth nerve, pour forth a copious and constant flow of saliva, which, in some cases, amounts to two pints or more in twenty-four hours, and by the expectoration of which the other pains are aggravated. Added to all this, there is often a train of painful symptoms connected with suppurations in the primary tumour, and with the growth, adhesions, softening, and ulceration of secondary glandular disease; besides the distress arising from the foetid state of the mouth, and the great and increasing debility of the patient.

“All these causes of the peculiar painfulness of cancer of the tongue may not exist together : in some rare instances there is, even during ulceration, no pain or salivation whatever. But when they do exist, their separate causes can be discriminated, and for some of them decided relief can be afforded. The symptoms which depend on the glosso-pharyngeal nerve can be distinguished from those attributable to the gustatory ; and, while no surgical remedy short of the extirpation of the root of the organ can be directly applied to the former nerve, the greatest relief and ease can be obtained for the fifth. Nothing is necessary but to sever the gustatory nerve between the disease and the brain. No sensation can then be conveyed along it from the tumour ; no reflective irritation can reach its collateral branches ; no stimulus to an exaggerated secretion can be given to the salivary glands. A patient, on whom this operation has been performed, should be relieved of pain in the tongue in front of the fauces, as well as in the jaw, temple, and crown of the head ; he should lose the incessant annoyance arising from the dribbling or expectoration of the saliva ; should speak more freely, and swallow with less difficulty, should sleep better, and be better nourished than before. And, so far as the gustatory nerve alone is concerned in the disease, all this is usually and strictly the fact. The glosso-pharyngeal, however, cannot be relieved by this operation, except as, indirectly, its pain ceases to be made worse by the salivation and consequent movement of the tongue.

“The feasibility of this plan for affording relief arises from the superficial position of the gustatory nerve. From the point at which it emerges from between the internal pterygoid muscle and the jaw to that at which it enters the tongue, the nerve is placed immediately beneath the mucous membrane of the mouth. In the hinder part of this sub-mucous course it lies between the last molar tooth and the anterior pillar of the fauces ; further forward it is beneath the floor of the mouth. Mr. Hilton, in his operation, sought for the nerve in the latter situation. The tongue being pressed away from the jaw, he made an incision along the mucous membrane thus exposed, found the nerve close to the sublingual gland, raised, and divided it. This operation is a sure one, inasmuch as the nerve is actually seen ; but he describes it as rendered tedious by the bleeding ; and it appears, further, to be inapplicable when the tongue is fixed to the jaw by adhesions of the tumour. There is a spot further back in the mouth, in which also the nerve is within reach, and where it can be divided even when the size of the tumour renders the operation in the floor of the mouth impracticable or inconvenient. The nerve, indeed, cannot be seen in the operation, but it may sometimes be felt, and can generally be easily reached.

“The guide to the nerve in the latter situation is the last molar tooth. On passing the finger into the mouth within and beyond that tooth, the bulging alveolar ridge can be felt, narrowing as it ascends into the thin

coronoid process. Behind, below, and parallel with the ridge, is the nerve. A line drawn inside the lower jaw, from the crown of the last molar tooth to the angle of the jaw would cross it at right angles about half an inch from the tooth. An incision, therefore, in the direction of such a line, three fourths of an inch in length, and carried through the mucous membrane to the inner surface of the bone, must divide the nerve. It is advisable to operate with a curved bistoury, since the alveolar ridge would shield the nerve from the edge of a straight knife. It is also advisable to be exact in observing the position of the alveolar ridge, or, in its absence, the edge of the toothless gum curving up to the ramus. In one of my earlier cases, in which there were no teeth to serve as a guide, I cut too far back, and missed the nerve, being probably misled by a mass of the tumour which was adherent to the inner side of the jaw."

Mr. Moore details three of the cases in which he divided the nerve, in all of which the relief from pain, and in two from the profuse salivation were remarkable; and in one of them he also tied the lingual artery, causing thereby a shrinking and diminution of the tumour that lasted for some time. The paper is one of great value.

V.—*A Case of Osteo-Malacia.* By Robert Barnes, M.D., &c. Dr. Barnes relates a case of this disease in a woman, aged forty, who had never been pregnant, and in connexion with the case discusses several points of interest and importance. The patient's original height was five feet eight, but when she came under Dr. Barnes' observation she only measured four feet eight. The disease commenced with pain in the back and limbs generally, pyrosis, vomiting, difficulty of walking, pain, and deformity. The urine was carefully examined at intervals, a point that has not hitherto been properly attended to, and it was found to contain, during the active stage of the disease, a large excess of urea, of alkaline, and earthy phosphates, and of extractives. It also, almost constantly, contained small quantities of sugar. The treatment adopted was, in the first instance, drachm doses of the syrup of the diphosphate of zinc and iron, and good diet, with wine; and under this she improved in some measure, but suffered much from sickness of stomach. At length she was placed on the use of cod-liver oil, ten minims of dilute hydrochloric acid being added to each dose of it to counteract the sickness of stomach—sedatives and anodynes being given at the same time to relieve the pains. Dr. Barnes adopted cod-liver oil treatment, in consequence of having read a paper by Dr.

Breslau, describing a case that had been benefited by it; and he found his own patient to be benefited by it also, as she rapidly regained strength, became able to walk, and in a short time resumed her domestic duties, and reported herself as restored to health.

In conclusion, Dr. Barnes considers the question whether there is a stage of this disease in which the bones of the pelvis preserve a yielding condition, and quotes several cases from Kilian and others proving that this is the case. In one of these the patient was on the operating table, to have the Cesarean section performed, when one of the consultants asked to be permitted to try to dilate the pelvis, and succeeded in getting in his hand, and in extracting a living child, by turning.

VI.—*On some Affections of the Cecal Portions of the Intestines with Illustrative Cases.* By F. G. Reed, M.D., &c., &c.—Four cases are narrated in this paper, referred to “accumulation or lodgment of the intestinal contents in the cecum, and commencement of the colon;” but it is not clear that this was their true nature. The fourth case is the most important, as in it an abscess formed in the right iliac region, which opened externally; and in a few days (two or three) it was discovered that feces escaped mixed with pus; and it was also found that pus and feces escaped by the bladder, showing that the intestine had been perforated, and that a communication had been established with the bladder. The opening into the bladder closed spontaneously, but a fecal fistula formed in the groin, and for this Sir Benjamin Brodie was consulted after the expiration of eight months, when he advised that the patient should have a couch made, so as to be *recumbent on her face day and night for several months*, have the edges of the wound touched occasionally with nitrate of silver, and take, night and morning, drachm doses of powdered cubebs, attending, at the same time, to the general health. The position, instead of being irksome, was found to afford great local relief and comfort from the diminution of the discharge; and, at the end of six months the discharge ceased entirely, and the wound was healed. For a few months subsequently the patient suffered occasional pain in the part, which was always relieved by the prone position; and at the end of twelve months she was quite recovered; and now, twelve years having elapsed, is perfectly well.

The prone position has, it appears, been found successful by Sir Benjamin Brodie, in other cases of cecal fistula; and it is stated by

Dr. Reed, that in all cases of rupture of the cecum, followed by abscess, which Sir Benjamin has had the opportunity of examining after death, the opening has been uniformly found at the posterior part of the intestine, and that it is because of this that he recommended the prone position.

VII and VIII.—*The Poisonous Effects of Coal Gas upon the Animal System.* By C. J. B. Aldis, M.D., &c.—A series of experiments, undertaken to ascertain the effects produced by different kinds of coal gas, with a view to directing attention to the precautions that should be used by gas-fitters and others exposed to gas, and to discovering the best means of treating persons asphyxiated by it. It was found that animals recovered more quickly from its effects when merely exposed to fresh atmospheric air, than when any other means were used.

IX.—*On the Temperature, Urea, Chloride of Sodium, and Urinary Water in Scarlet Fever; and on a Cycle of Disease and Health.* By Sydney Ringer, M.B., &c. This is a very elaborate paper, but the series of facts seems to be too limited to justify the deduction of general laws. No doubt the further pursuit of the investigation here entered on will be productive of good results, but we cannot attempt to analyze the paper, which is illustrated by tables and diagrams.

X.—*On Pulse-Breath.* By C. Radcliffe Hall, M.D., &c. By this term Dr. Hall means an audible pulsation communicated to the breath as it issues from the mouth by each beat of the heart. In some cardiac affections morbid sounds are often heard at a distance from the patient, but this is something different. The sound is that of a gentle gushing of the breath synchronous with each pulsation of the heart, and such as anyone may imitate voluntarily, so far as the character of the sound is concerned. Dr. Hall has heard it so loud that he could count the pulse by it at a distance of fifteen feet, and so subdued as to need listening close to the patient's face for its detection.

Two varieties of pulse-breath have been observed by Dr. Hall—pulmonary and cardiac. The first due to the impulse of the heart communicated directly to an empty pulmonic cavity; the second to an impulse conveyed through the blood vessels to the air cells and passages.

Dr. Hall believes this sound has not been described hitherto, and acknowledges that it has not any especial diagnostic or prognostic value, as when present the nature of the case is already sufficiently evident without it.

XI.—*On Brass-Founders' Ague.* By E. H. Greenhow, M.D. &c. This is a valuable contribution to our knowledge of the diseases affecting artizans. The disease resembles an imperfect paroxysm of true intermittent fever, but differs from ague in that the paroxysms occur at irregular periods, each being independent of those that precede or follow it, and distinctly traceable to exposure to the fumes of deflagrating zinc.

“These symptoms are a sense of malaise and weariness, or, as one very intelligent man termed it, *nervousness* ; a feeling of constriction or tightness of the chest, and, in some rare cases, nausea commencing during the afternoon of a day employed in casting, followed towards evening, or at latest when getting into bed, by shivering, sometimes succeeded by an indistinct hot stage, but invariably by a very definite stage of profuse sweating. The sooner the latter follows the setting in of the cold stage, the shorter and milder is the attack, and the less likely is the caster to be incapacitated for work on the following day. Headache and vomiting frequently, but by no means always, accompany the attack, which, at the worst, is ephemeral, and rarely, if ever, prevents the caster from pursuing his occupation ; but the attacks are, in some cases, of frequent occurrence, and men engaged in this employment are seldom long-lived, though the ailment which most evidently shortens their days is chronic bronchitis, or, as they term it, *asthma*. Persons who have but lately adopted the calling, or who only work at it occasionally, and regular casters who have been absent from work for a few days, are reported to be more liable to suffer from this disease than those who work at it continually.”

Dr. Greenhow proves conclusively that the disease arises from exposure to the fumes of the zinc used in manufacturing brass ; some of the workmen believe that paralysis agitans is also produced by the same cause ; but the evidence of this is not satisfactory. It is found that covering the mouth and nose, when exposed, is very effective as a preventive, and the workmen believe that the occasional use of emetics, and the drinking of milk are the best prophylactics ; and that milk has curative properties.

XII.—*On the Connexion between a Local Affection of the Lymphatic System and Chylous Urine, with Remarks on the*

Pathology of the Disease. By H. V. Carter, M.D., Professor of Anatomy and Physiology, Bombay Medical College.

XIII.—*On a Case of Chylous Urine.* By A. T. H. Waters, M.D., &c. We notice these papers together as they refer to the same subject. Dr. Carter describes three cases that occurred in his practice at the Jamsetjee Jejeebhoy Hospital, where the disease is, he says, not uncommon. The first, which was not a case of chylous urine, but is important as illustrating the local affection of the lymphatic system, was that of a Parsee youth, suffering from slight fever. The inguinal glands were greatly enlarged, soft and doughy to the touch, but not painful. On the cutaneous surface of the thigh, a few inches below Poupart's ligament, was a small, hardly perceptible, pimple, from which there occasionally issued a milky fluid, and sometimes so copiously that in the course of the day a pint has been collected. Pressure just above the spot caused the flow to cease; when the spot itself was compressed the fluid squirted out to some distance, leading to the supposition that there was a small dilated sac behind the orifice. The discharge commenced, spontaneously, six months before, and ceased on pressure having been used; but recurred after intervals, the present being its third appearance. Before it comes on, the glands in the groin become tumid, and rather painful; afterwards this ceases. The fluid discharged had all the chemical and microscopic characters of chyle.

The second case was that of an adult Hindoo, who applied on account of an affection of the scrotum, the skin of which was corrugated in a peculiar way—thickened and studded with numerous small tubercles, which were soft to the touch, and when punctured discharged freely a chylous fluid. The size of these tubercles or varicosities varied from that of a pin's head to that of a pea, or even larger. The scrotum began to enlarge four months before, and the milky discharge occasionally occurs spontaneously, and intermits. It does not issue from one spot, but from several it may be, according to the number and size of the tubercles that have burst. When it ceases, and sometimes even when it is going on, the urine becomes chylous and frequently coagulates. The patient was admitted into the hospital, when Dr. Carter found that the tumefaction of the inguinal glands seemed to alternate with the appearance of chyle in the urine; and the parts also became tumefied a short time (two or three hours) after a full meal, and again subsided. The fluid discharged had all the character of chyle

or a mixture of this with lymph. The chylous character of the urine was also well established. Various plans of treatment, local and general, the latter including large doses of gallic acid, were tried, without producing a favourable effect.

The third case was that of a Hindoo youth, who applied, stating that his urine appeared to be mixed with milk and blood; that this appearance had come on suddenly two years since, continuing three-and-a-half months; suddenly ceased for five months, and then came on again, lasting nine months; again stopped for two months, and re-appeared six months before his applying at the hospital. In this case there was no external affection of the lymphatic system; the urine was unequivocally chylous, and occasionally contained clots both of coagulated fibrin and blood clots which often caused difficulty in micturition.

Dr. Carter enters into a critical examination of the theories that have been propounded to account for the presence of chyle in the urine, and shows that none of them fully account for all the facts; and then suggests there is some abnormal distribution of the chyle which becomes mixed with the urine in a direct manner, and that it does not arise from abnormal excretion of chyle, as Prout supposed, or its absorption, as Beale thinks; in fact, that some abnormal communication, as by the rupture of varicose lymphatics, is established between the lacteal system and the urinary tract; and that the vessels, from their varicose state, and from the efficiency of their valves being impaired, allow of a regurgitation or backward flow of the chyle.

“The cases now reported give evidence of a state of the lymphatic system not hitherto recognised. In the first instance the glands are greatly enlarged and their function increased; the vessels connected with them are also dilated, and there is clear proof that this state extends inwards; as high, indeed, as the thoracic duct, since the fluid discharged at the skin of the thigh is not mere lymph, such as ordinary lymphatic vessels carry, but a rich chylous fluid. Of such a fluid the only source can be the terminal lacteals above, the flow or current being reversed on account of the altered state of the vessels, whose valves are probably useless. Had the chylous fluid, which in this case poured out on the cutaneous surface, been turned upon the urinary mucous tract, we should have had all the phenomena of chylous urine.

“In the second case this must, in reality, have occurred. There is a very similar but more marked morbid condition of glands and vessels, and a similar reversal of the flow of chyle; but, in addition, the urine is

found to contain chyle, its appearance in that fluid being clearly connected with exacerbation of the local disease.

"Lastly, in the third case the urine has the characters of that last mentioned, but there is no external local disease. It would be difficult, however, to disprove the possibility of more deeply seated local hypertrophy and dilatation of the lymphatic system; the warrantable presumption is that such really existed.

"Hitherto anatomical proof of the accuracy of these views has not been obtained, but many of the phenomena of disease are considered to be satisfactorily explained on grounds not so well founded in reason and fact as those now offered in support of the proposed explanation of chylous-urine disease."

Dr. Waters' case is that of a sailor, a native of Bermuda, who was admitted into the Northern Hospital, Liverpool, suffering from retention of urine, when it was soon discovered that the cause of the retention was the coagulation of the urine within the bladder. The urine had all the characters of being mixed with chyle; and after it had been passed for a short time, it coagulated into a tremulous mass, which assumed the shape of the vessel which held it, and exactly resembled *blanc mange*; the coagulum sooner or later disappearing entirely, or in part, leaving the urine altogether clear, or partly clotted.

Dr. Waters adopts the view that the disease depends on the excretion by the relaxed capillaries of the kidney, of the albumen, the fibrin, the fat, and the blood corpuscles, and recommends for its treatment the use of gallic acid, which he gave in this case in doses as large as 120 grains a day, and under the use of which the urine gradually assumed the normal condition, which it maintained for four months, the latest date at which there is an account of the case. But it is right to observe, that in one of Dr. Carter's cases large doses of gallic acid were given "without producing a favourable effect."

XIV.—*Observations on the Tactile Sensibility of the Hand.*
By Ed. Ballard M.D., &c.—This paper details, by tables and diagrams, a series of elaborate experiments after the method of Weber, on the relative sensibility of the several regions of the experimenter's own right hand.

XV.—*On the Influence of Paralysis; Disease of the Joints; Disease of the Epiphysial Lines; Excision of the Knee; Rickets*

and some other Morbid Conditions upon the Growth of the Bones.

By G. M. Humphry, M.D., &c.—This paper is intended as a continuation of the one by the author, published in the last volume of the Society's "Transactions." The first section gives the measurement of the corresponding limbs in eight cases, where one of them had been paralysed from infancy, and shows that while there is generally a deficiency in the longitudinal growth of the bones, the amount of this is irregular. But there is a more constant and marked deficiency of lateral growth, affording a better example of the relation between the growth of the bones and muscular action, than the deficiency of length. The second section relates eight cases of impairment of growth from old disease of joints. We extract, in his own words, Dr. Humphry's conclusions on this subject:—

"In this class of cases, as well as in the paralytics, the deficiency of growth is usually apparent in all the segments of the affected limb, though it is most marked in those contiguous to the diseased joint. It depends doubtless, as in paralysis, in great measure, upon imperfect use of the limb; and this is, commonly, most marked in the segments contiguous to the diseased joint. In some instances (as in Case 15) the growth is rendered more defective by the disease extending through the epiphyses to the shafts, and so involving the epiphysial lines.

"One might infer that in some of these cases the side of the pelvis must share the deficiency of growth with the affected lower limb; and the inference is strengthened by a case published by Dr. Barnes,^a in which the left side of pelvis, measured, externally, from the sacrum to the symphysis, was an inch and a half smaller than the right, the patient having been lame in the left leg, which was an inch short, from the age of two years, when the ankle was broken. I have not, however, had an opportunity of verifying this supposition by measurement, and I am not aware that females with shortness of one lower limb, from ankylosed joint or other disease, are peculiarly liable to difficulty in parturition."

Dr. Humphry next details some cases of deficient growth dependent on various conditions; and also gives the particulars of a remarkable case of increase of growth from partial necrosis of the shaft of the femur, the only example he has himself met with; but in a note he refers to some other cases that have been recorded. In his case he supposes that the disease in the lower part of the

^a *Obstetrical Transactions*, for 1861, p. 315.

shaft of the femur acted as a stimulus to preternatural activity of the growing processes in the epiphysial line.

The next section is on the effect of excision of the knee upon the growth of the limb. This is a question of very great importance, with reference to the propriety of excising the knee-joint in young subjects; and Dr. Humphry gives, in a table, a list of all the cases in which he has been able to obtain information on the subject. The following are the conclusions at which he arrives:—

“I think we are justified in concluding:—*First*, that if the epiphysial lines are sawn away in the operation of excision of the knee, the subsequent growth of the limb will be impaired; *secondly*, that if the epiphysial lines be left intact, there is much probability that the growth of the limb will fully or nearly equal that of the other limb; *thirdly*, that the probability, or even the certainty, of a failure of growth in the limb is not to be regarded as a fatal objection to the operation, and scarcely constitutes an objection at all after the age of fourteen or fifteen.”

The paper concludes with a series of measurements, showing the effects of rickets on the growth of the bones.

XVI.—*An Analysis of 230 Cases of Lithotomy.* By Thomas Bryant, F.R.C.S., &c.. In this paper Mr. Bryant analyzes all the cases of lithotomy that have occurred in Guy's hospital for the last twenty-five years. The communication is a very valuable one, and well worthy of the careful perusal of those interested in the subject.

XVII.—*On the Treatment of Acute Rheumatism, considered with regard to the Liability to Affections of the Heart under Different Remedies.* By W. H. Dickinson, M.D., &c. The author of this paper held, for several years, the office of Medical Registrar, which made it necessary for him to watch cases of disease which, although of a similar nature, have fallen under the care of different physicians, and have, consequently, been subjected to diverse methods of treatment; and he saw reason to believe that the frequency with which acute rheumatism was followed by inflammatory affections of the heart was regulated by the treatment to which the patients were subjected, and he now gives an analysis of all the cases of acute rheumatism that came into the hospital during a period of five years, in which, on admission, the sounds of the heart were natural. The cases have been classified according to the treatment adopted, and the condition of the heart has been noted throughout.

Venesection was adopted in eight cases, other remedies being used; all but one getting calomel and opium at intervals, and most of them salines. In the eight cases the heart remained uninjured in only half the number, and they remained under treatment for periods varying from thirteen to eighty-four days, giving an average of more than forty-one days.

Mercury was trusted to almost entirely in six cases; and in eighteen others salines with, and without, nitre were given in addition. Of those twenty-four cases, six got inflammation of the heart, which proved fatal in two; and the average duration of treatment of the patients who left the hospital alive was thirty-seven days.

Dover's powder, opium, belladonna, quinine, iodide of potassium, and guaiacum were used in seven cases of which the heart became involved, and in four the duration of treatment was forty-six days. Opium, as recommended by Dr. Corrigan, was only used in one case; but Dr. Dickinson refers to a report of twenty-one cases, published by Dr. Sibson, in which it was used, and in which no less than fourteen, or exactly two-thirds, manifested, while under treatment, symptoms of valvular or pericardial inflammation.

Nitre was given in seven cases without salines, alkalies, or mercury; only one got a cardiac complication, and the average duration of treatment was twenty-seven days. In cases where nitre was used in conjunction with other remedies it was also beneficial.

Saline Treatment.—By a sort of arbitrary definition Dr. Dickinson includes under this term, for the sake of clearness, all cases treated with potass or soda in combination with carbonic or vegetable acids, in quantities not exceeding three drachms in the twenty-four hours. Of these there were sixty-two, but in the greater number other remedies were given in conjunction. The whole number gave seventeen instances of cardiac complication, or 1 in 3·6. In seven cases salines alone were used, giving two cases of disease of the heart, and an average duration of thirty-three days. Salines with nitre gave better results, but not so good as nitre alone. Salines with mercury gave a longer duration of the disease, and did not alter the liability to heart affections, nor did they alter the disastrous results that follow the use of the reputed specific remedies. Of six cases, where they were used in conjunction with Dover's powder, the heart became involved in four.

Partial Alkaline Treatment.—This means the use of the same salts

of potash and soda in quantities of between three and four drachms in the day. This treatment shortens the duration of the disease; but this advantage was lost where the treatment was complicated by the addition of colchicum and other medicines. The liability to disease of the heart does not seem to be lessened by saline treatment; in seventeen cases it was affected in six.

Full Alkaline Treatment.—Meaning the use of the same salts in quantities, varying from half an ounce to an ounce and a-half in the twenty-four hours. This treatment afforded better results than any other. Of twenty-two cases the average duration was twenty-five days; but here again the addition of colchicum prolonged the disease—as of twenty-six cases, in which it was added to the alkaline treatment, the duration was thirty days. Of the total forty-eight cases, treated with large doses of the alkalies, one only got any cardiac complication; and this occurred within twenty-four hours of the commencement of the treatment, and was so slight that the heart's sound had again become normal when the patient was leaving the hospital.

XVIII.—*Amaurosis consequent on Acute "Abscess" of the Antrum, produced by a Carious Tooth.* By S. James Salter, M.B., &c.

XIX.—*Two Cases of Extensive Arterial Obstruction from Separated Cardiac Vegetations, followed by Gangrene of the Lower Extremities, and Death.* By S. J. Goodfellow, M.D., &c.

XX.—*Case of Iliac Aneurism.* By James Syme, F.R.S.E., &c. Mr. Syme believes that the Hunterian operation for aneurism has been too generally adopted, and that in some cases what has been called the old operation would be both easier and safer. He believes that even in spontaneous aneurisms it does not necessarily follow that the coats of the artery are diseased throughout the whole extent of the tumour; and trusting to find a sound portion of the artery within the sac, he has repeatedly operated with success, by laying open the cavity and securing the orifice by ligatures. Of the cases thus operated on he believes the one now related the most remarkable, and he thinks it so strongly supports the position in question that any further evidence would seem hardly to be required.

The patient was a sailor who, on two different occasions, met

with injuries in the groin, followed each time by the appearance of a tumour. We extract the description of the tumour as it was when the man was admitted into the infirmary, and of the operation by which the disease was cured:—

“Upon examination, I found the tumour even larger than had been expected. It extended in length from below Poupart’s ligament considerably above the umbilicus, and stretched from nearly two inches beyond the middle line of the abdomen, towards the right side, completely across the left iliac region, so as to overlap the crest of the ilium. Throughout the whole of this enormous swelling there was a strong pulsation and distinct aneurismal bruit; there was also great pain from pressure on the nerves, and considerable œdema of the thigh, from obstruction of the venous circulation.

“From the history of this case it seemed probable that the artery had been ruptured in the groin, and that, if an opening were made into the sac, the pressure of the finger would prevent hæmorrhage, until the clots were turned out and ligatures applied. On the 20th of April, chloroform having been administered, I thrust a knife into the aneurism, about an inch above Poupart’s ligament, and at the same distance from where the anterior spinous process of the ilium was supposed to be. Having inserted my fore-finger, and found nothing but a confused mass of clots resting upon the bare bone, I made room for the middle finger also, and, still obtaining no satisfactory information, enlarged the wound sufficiently for thrusting in the whole hand, but with such force that the integuments embraced it tightly at the wrist, so as to prevent any escape of blood. I then ascertained that the artery was not in its proper place, and felt that it would be necessary to lay open the sac in order to discover the seat of rupture. But as this could not be done without causing a fatal hæmorrhage, so long as the circulation continued in the vessel concerned, I availed myself of a screw clamp which Professor Lister, of Glasgow, had had constructed for effecting compression of the aorta. This he applied so as to stop pulsation in the right groin, and I then, by means of a probe-pointed bistoury, at once dilated the wound to the extent of six inches, parallel with the crest of the ilium. By the united action of both hands all the blood and fibrinous clots, to the amount of six pounds by measurement, having been scooped out, the surface of the sac was carefully examined, when a small oval aperture was detected in what might be called the roof of the cavity, towards its inner side, high up in the pelvis. Upon relaxation of the screw, a gush of blood left no room for doubt as to this being the arterial orifice, but, upon examination, it was found to be separated from the vessel by a very dense texture forming the sac. Having divided this, I dissected carefully, so as to bring the arterial coats distinctly into view, and passed a ligature on each side of

the opening. When these were tied the blood still issued, though not with the same force as it had done previously, and we therefore inferred that the internal iliac originated from the portion of vessel which had been included. A ligature was applied, with the view of embracing it, and then the clamp was taken off, without any further bleeding. The edges of the wound were kept in contact by silver sutures, covered with dry lint, and gently supported by a bandage. The patient, who had slept quietly during the whole process, then awoke, quite unconscious of the arduous undertaking in which we had been engaged, and which could hardly have been accomplished without the assistance of Mr. Lister, and my colleague in the hospital, Dr. Watson, to both of whom my best thanks are due. Everything went on favorably afterwards: the patient was at once relieved from the pain, which he had been able to endure only through the use of large opiates, the œdema of his thigh quickly disappeared, and a slow but progressive improvement was observable in his general health. On the nineteenth day after the operation all the ligatures came away together, and then the wound gradually contracted."

XXI.—*Contribution to the Statistics of Cancer.* By W. M. Baker, M.R.C.S., &c. No analysis could do justice to this very excellent paper, which consists of a series of tables drawn from 500 cases, noted by Mr. Paget in hospital and private practice, and showing the natural history of cancer.

XXII.—*Report upon Syphilis, with Reference to the more Mixed and Unusual Forms of the Primary Symptoms.* By J. A. Marston, M.D., Assistant Surgeon Royal Artillery. We must pass over this paper like the preceding one, merely recording its title for the benefit of those investigating the subject of which it treats.

XXIII.—*Case of Aneurism of the External Iliac and Common Femoral Arteries, treated by Digital Pressure.* By Henry Lee, Assistant Surgeon St. George's hospital, &c. The pressure in this case was at first useful, but ultimately the aneurism extended, and the patient died. In his remarks Mr. Lee argues: 1st. That the operation of laying open the sac of aneurisms, with a view to exposure and tying the vessels, must, in the majority of cases, fail, because an examination of the preparations of aneurisms of the larger arteries, as they exist in the museums of London, will show that the very great majority of these are of the fusiform

character, formed by the dilatation of all the coats of the vessels. The cases in which the artery, of its natural size, is to be found running by the side of a portion of the sac, in such a position as to admit of a ligature being applied to it, are very exceptional; and the *post mortem* examination shows that if such an operation had been attempted in the present case it must have failed in the same way as in the case operated on by Sir A. Cooper. 2nd. Mr. Lee argues that the digital compression was shown by the *post mortem* examination to have had the effect intended, as it caused a large firm clot to be formed, but the coats of the artery being ruptured it was unsupported and gradually gave way.

XXIV.—*Report of the Committee appointed by Royal Medical and Chirurgical Society, to Investigate the Subject of Suspended Animation.* The investigations of the committee were divided into two portions; the first being pursued by experiments on living animals; and the second, on dead human bodies. The experiments on living animals were intended for the purpose of examining the phenomena of apnea in its simplest form, viz.: when produced by simply depriving the animal of air; and the principal facts to which attention was directed were:—1. The duration of the respiratory movements. 2. The duration of the heart's action. It was found that in dogs, on an average, respiration lasted four minutes, five seconds after the animal had been deprived of air; and the heart's action continued seven minutes, eleven seconds, that is three minutes, fifteen seconds after the respiratory efforts ceased.

3. The next question investigated was the period, after simple deprivation of air, at which recovery is possible under natural circumstances, without artificial means of resuscitation; and it was found that a dog might recover, by his natural efforts, after a deprivation of air for three minutes, fifty seconds, and is not likely to recover after four minutes, ten seconds; and it was further found that the inspiratory efforts of the animal were sufficient to raise a column of mercury four inches, a force quite sufficient to draw foreign bodies into the lungs.

Though animals simply deprived of air may recover unaided after four minutes five seconds; yet animals immersed in water will not recover if longer submerged than one and a-half minute; and this difference is mainly due to the water that has been drawn into the lungs, preventing the access of air.

Many other questions were investigated, and many most ingenious and conclusive experiments were performed, and especial attention directed to the several plans of resuscitation in ordinary use, viz.:—Pressure by the hands or a bandage on the chest, whereby a portion of air is expelled, and on relaxing the pressure the chest expands and air enters. The “ready method” of Marshall Hall, and the plan recommended by Dr. Silvester, of these methods it was found that by the first, and using a pressure of about thirty pounds, or such as might safely be applied to a living body, about eight to fifteen cubic inches of air could be expelled, and a similar amount introduced on removing the pressure. By Marshall Hall’s plan the whole amount of exchange of air produced varied according to the condition of the subject, sometimes not exceeding a few cubic inches, and never exceeding fifteen cubic inches; while by the Silvester plan the results obtained were remarkably uniform, and the amount of air exchanged much greater than by any other method, being from nine to forty-four cubic inches. The committee conclude their report with the following suggestions for the treatment of apnea generally:—

“That all obstruction to the passage of air to and from the lungs be at once, so far as practicable, removed; that the mouth and nostrils, for example, be cleansed from all foreign matter or adhering mucus.

“That, in the absence of natural respiration, artificial respiration, by Dr. Silvester’s plan, be forthwith employed in the following manner:—The body being laid on its back (either on a flat surface, or better, on a plane inclined a little from the feet upwards), a firm cushion, or some similar support, should be placed under the shoulders, the head being kept on a line with the trunk. The tongue should be drawn forward so as to project a little more from the side of the mouth; then the arms should be drawn upwards until they nearly meet above the head, the operator grasping them just above the elbows, and then at once lowered, and replaced at the side. This should be immediately followed by moderate pressure, with both hands, upon the lower part of the sternum. This process is to be repeated about twelve or fourteen times in the minute.

“That if no natural respiratory efforts supervene, a dash of hot water (120° Fahrenheit) or cold water be employed, for the purpose of exciting respiratory efforts.

“That the temperature of the body be maintained by friction, warm blankets, the warm bath, &c.

“In the case of drowning, in addition to the foregoing suggestions, the following plan may be, in the first instance, practised:—Place the body with the face downwards, and hanging a little over the edge of a table,

shutter, or board, raised to an angle of about 30°, so that the head may be lower than the feet. Open the mouth and draw the tongue forward; keep the body in this position for a few seconds, or a little longer if fluid continues to escape. The escape of fluid may be assisted by pressing once or twice upon the back."

Précis Iconographique des Maladies Vénériennes. Par M. A. CULLERIER, Chirurgien de l'Hôpital du Midi. Paris: Méquignon-Marvis, 1861. Parts 3-5. Illustrated with numerous Coloured Drawings on Steel.

IN our Journal for May, 1862, we gave an analytic notice of the two opening numbers of this series. As our readers will see, by turning to the review, the work is planned after the model of Bernard and Huette's Operative Surgery, and Goffres on Bandaging; works remarkable for the superior manner in which they were brought out, and for the admirable finish of their numerous illustrations. The present work worthily follows in their foot-steps. It seems carefully written, so as to give a clear account of its subject—no easy matter where syphilis is concerned; and if we may not praise the beauty of the accompanying engravings it is because of their subject rather than their execution; the latter leaves nothing to be desired. Of the former, accustomed as we have been to see every variety of venereal in every stage, it is enough to say that no possible ill that flesh can be heir to from this cause seems likely to be left undelineated. The objects are sufficiently disgusting in their nature, and we really pity the unfortunate artists who have had the ugly end of this labour of love to toil upon. The three numbers which lie before us treat, first, of gonorrhea and warts, concluded from the two former numbers; and then of soft and hard chancre. Our attention need not be detained upon the former subject.

Concerning the frequency of soft chancre, M. Cullerier is at variance with most observers. Whereas M. Puche found 8,045 soft chancres in 10,000 cases, and M. Fournier 215 in 341 cases, our author has reversed the proportion; 414 cases observed by him at Midi, in 1861, are classed as follows:—143 soft, 250 indurated, and 21 doubtful. If this ratio be corroborated by the observations of others, the contradiction which it gives to the popular belief can only be accounted for on the supposition that M. Cullerier's more careful observation has detected a hard stage in many instances where a less accurate observer would not have noticed it, and that many of the

so called soft sores of other writers have been hard during some period of their course.

Believing soft chancre to be syphilitic in the fullest sense of the term, and following the lights of reason and experience, M. Cullerier asserts that it is dangerous to promise an immunity from secondaries in any given case, however trifling. To this we have no objection; we have met with cases of the most trivial excoriation, scarcely deserving the name of sore, which healed rapidly, and yet were followed by well-marked secondaries, slight, no doubt, but yet not agreeable either to patient or over confident attendant.

In spite of Vidal and Dupuytren, who have given the weight of their authority against the practice, our author approves of caustic in soft sores, provided it be applied unsparingly with no timid hand. He specially affects the sulphuric acid and charcoal of Ricord, which, if painful, is energetic. He also speaks favourably of excision where the situation on a thin projecting margin of skin admits of its being done at a stroke, and without infecting neighbouring parts.

Where caustic or excision would come too late, he approves of dry applications, such as dry lint or charpie, calomel, or alum, in powder. In Mr. Labatt's excellent treatise on Venereal, mention is made of *blue lint*, prepared from solution of sulphate of copper, which can be dried and kept in the pocket-case; we have found it an admirable application for soft sores, and sovereign against warts.

As regards the general treatment of soft chancre, M. Cullerier's protest against those who gorge their patients with mercury for all sorts of sores on the genitals, virulent or otherwise, deserves to be inscribed in letters of gold.

M. Cullerier's opinions, as it is pretty well known, are somewhat extreme on the subject of the transmission of constitutional syphilis, though not so much so as those of our late distinguished syphilographer, Professor Porter. It may arise, according to him, not only from the hard and soft chancre, but also from the ichor or discharge of various consecutive eruptions and affections, especially from mucous condylomata, and also from the blood of syphilitic patients. This last point, long denied, has finally been set at rest by the experiments of Pellizari, who inoculated a perfectly sound person with blood taken from the arm of a syphilitic patient with the result of infecting the person so inoculated, both with a primary sore and with secondary eruption. To these sources of infection Mr. Porter added the semen. M. Cullerier makes no mention of this, nor indeed does he allude to Mr. Porter's writings on the subject. At the

same time that we must accept these results, on the faith of those who have observed them, we must continue to believe that even infection from the ichor of secondary or tertiary eruptions is rare in comparison with the number of times of contact. M. Cullerier does not believe an absolute immunity resulting from syphilization, whether intentional or otherwise; at the same time he states his impression to be that a second attack of genuine constitutional syphilis is improbable in any given individual. A hard chancre confers, according to him, comparative but not absolute immunity from a second attack. As most people now do, he looks upon the hardness as an evidence that infection has extended to the system, and he asserts that the period of incubation from the time of poisoning to that of the appearance of the sore is indefinite; it may be prolonged in soft sores and scarcely perceptible in hard, though, of course, the converse is the rule.

Finally—for our present notice must draw to a close—M. Cullerier does not treat the hard sore by mercury. To the horror of the routine surgeon, he lets it alone; local treatment being confined to dry lint, a little aromatic wine, or some drying powders, among which, certainly, he enumerates calomel, but merely as a light deterrent. In the very rare cases where a doubtful sore can be destroyed with caustic, or excised, he may resort to either plan of treatment, but quite exceptionally. Looking on the hardness as a sign of constitutional infection, he only cares to close the ulcer as easily as he can, and then he calmly waits until the skin begins to throw off the disease. His remedies are limited during the interval to tonics, generous diet, and all other means by which to prepare the constitution for the struggle that may await it. But here we must let him speak for himself:—

“Mercury administered from the commencement, before the appearance of secondaries, disturbs their regular evolution, and often delays, but does not prevent them; sooner or later they will appear. I know well that, in remaining inactive, the question will suggest itself, that the approaching accidents will be more serious, and it is this fear which has caused mercury to be exhibited from the moment that hardness shows itself. I myself followed this practice for a long time; but, inasmuch as I often saw very slight secondaries in persons who had not been submitted to a mercurial treatment, while very intense and persistent affections of the same order were to be met with in persons who had been mercurialized for hard sores, I renounced the practice, and now content myself with treating the induration locally, not beginning internal

treatment until secondaries make their appearance on the skin or mucous surfaces; and I have remarked that the mercury is better borne, and the disease is modified and subdued in a more rapid and lasting manner—for mercury is not an antidote against syphilis; it only attacks its manifestations more energetically than any other medicine.”

How hard is it to arrive at truth as regards syphilis. In the above extract M. Cullerier says, sooner or later secondaries will break out; in another place he tells us some hard sores will heal and never be followed by secondaries. Both dicta cannot be true absolutely. The late distinguished Professor Porter, who held the extreme doctrines of the specific effect of mercury in the cure of syphilis, tells us of a case where the primary sore healed up, where no secondaries followed, and yet, after a lapse of twenty-nine years, a pocky child was born, proving the latency of the disease during all that long lapse of years (that is, if the patient was not concealing a second infection, which, after all, is the likely solution). Is a surgeon never sure that his patient is cured? If, trusting Cullerier, he gives no mercury for a hard primary, is he to live in dread lest, at the lapse of many years, his patient, apparently long free from syphilitic taint, should at last give such plain evidence of the malpraxis which left him all that time with a corroding, life-destroying poison in his system? Or, believing Professor Porter implicitly, is he to give mercury at every stage of the disease, not even suspending it when, in the midst of a full course, a full crop of secondaries bursts forth, when Ricord tells him that in the interval between the healing of the sore (according to Cullerier, between its appearance) and the evolution of the secondaries, mercury will only derange the natural effort to expel the poison. How many contradictory rules may be evolved, not only from surgeons of various views, but from the works of any one surgeon, we care not here to inquire. For us the rule has always been to listen to all *facts* on the subject, to believe no theories, and to doubt all general deductions. Syphilis is no mathematical quantity, to be eliminated from one side of a human equation by pouring in a given quantity of its antidote, nor yet by adding an equal quantity of itself to the opposite side of the equation (in the form of syphilization). Syphilis is not a thing, but a condition, as is all disease. Those who look on disease of any kind as a thing must be specialists—will be routinists. The man who regards it as a condition will recognise its diversity, the result of the endless variety in the conditions and the habits of individuals.

That Cullerier is right in the main, as regards the little use in the administration of mercury before the appearance of secondaries, we are fully persuaded. We have not been able to satisfy ourselves of any certain benefit where it has been given before this period, although we have given it, or seen it given, in every variety of method and amount. It confers no positive, or even probable, immunity in genuine hard sore; and where much has been given and secondaries result, they have invariably seemed to us more severe and obstinate. But there are many signs of secondary or constitutional syphilis which will prove that the disease is there, even when no regular eruption is to be seen. The patient has a dirty-looking skin, with faint discolourations, often not seen unless when the skin is heated, clammy hands, pains and aches, malaise and languor, headaches, huskiness of voice, a tendency to break down in his weakest point—be it head, stomach, chest, or what else; hundreds of little points will show him to be suffering from a latent disease, which his natural powers are unable to throw off unaided. His system is more or less saturated with tissues, enfeebled and poisoned by the syphilitic taint, and he either lingers on with varying, and perhaps severe, ill health, or, in milder cases and robust persons, he only shows it when occasional exposure or fatigue have reduced his powers. But still, when syphilis has really tainted the system, some evidence of the taint will be found, and an appropriate treatment will relieve it. What that is to be the judgment and discretion of the surgeon must decide in each case and under each manifestation. Mercury is most valuable as an aid to nature in expelling diseased and poisoned tissues; where administered recklessly, or in the smallest excess of what is necessary, it will kill healthy tissue and act as a poison. If syphilis could once be rescued from the realms of quackery and routine, and if men would but treat it as they do other diseases, giving due heed to all the attendant circumstances of each case, the contradictions which disgrace its literature and our profession would soon be at an end. We accept M. Cullerier's labours as those of an honest man, with clear views, and less than the ordinary amount of dogmatism; and we sincerely commend his present work to all our readers. In it they will find the opposing statements of other eminent syphilographers, fairly weighed and answered in a becoming spirit, while his own are supported by much evidence that will carry conviction of their general accuracy and of their author's conscientious intentions to be impartial.

Lectures on Surgery; delivered in St. Bartholomew's Hospital. By WILLIAM LAWRENCE, F.R.S., &c. London: Churchill. 8vo, pp. 632.

It is a pleasing sight to see the green old age of a Lawrence occupied in discussing topics which are more generally left to younger men to speculate upon. Most men desire for themselves longevity, with persistence of mental vigour. To such of us it is always a matter of self-congratulation when we meet with a veteran who retains, to a late period of life, his youthful energies; we see reflected in him what, we would fain flatter ourselves, is the image of our own future condition; and we overlook many errors or deficiencies in his work, because we hope for a similarly charitable criticism when our own turn shall come; when to these almost involuntary feelings there are added well merited respect for the man, and confidence in his previous achievements, it is not too much to say, that whatever may fall from his lips will be received with scarcely a question as to its value, even though we may be obliged to alter the formula in which it is cast, in order to suit the requirements of more modern investigations. Thus it is that when we find a Brodie engaged in solving deep problems of psychology, or a Lawrence devoting himself to elucidate the phenomena of inflammation, we are willing to accept their dicta as essentially true, even if the language in which they are clothed should be tedious, and the philosophy akin to that of the past generation.

Mr. Lawrence's *Lectures on Surgery* are not free from the faults inherent to the works of the aged. The form of lecture is of itself liable to become tedious, or prolix, and the substance is often difficult to come at, through the outer covering of words. But, those who will steadily read these lectures through, from cover to cover, will be amply rewarded by an increase of their knowledge, both of the theory and practice of surgery. The book is one that we could not analyse, nor is it easy to give an idea of its value by occasional extracts, for, from what has been said above, it is evident that these should be copious in order to do justice to the writer; however, we cordially recommend our readers, young and old, to make themselves personally acquainted with its contents; we promise that they will not regret the labour.

This volume, at first sight, appears to be confined to general subjects:—Inflammation, and what are called its results; wounds; scalds

and burns; the sympathetic results of local injuries, such as delirium tremens and tetanus; scrofula; gout; rheumatism; syphilis and cancer, are more or less fully discussed.

Mr. Lawrence has strong opinions, and gives utterance to them in unmistakable terms.

Thus in advocating bleeding as the means, *par excellence*, of checking inflammation, he lays it down that, twenty, thirty, or even more ounces of blood will need to be withdrawn, and recommends bleeding to syncope as advantageous in some instances; he also asserts that the Londoner will bear bleeding as well as a countryman; his reasoning on this point is a curious example of the way in which early habits of thought give a bias to the judgment. The very grounds on which he urges the propriety of bleeding are those upon which the opponents of that practice rely. He says:—

“The inhabitants of London, from the highest to the lowest, for the most part indulge their appetite like the rest of the world; and they who live in the country do the same. Nowhere is the consumption of animal food and fermented liquors more general than in our metropolis. These habits, of which the injurious effects are aggravated in many instances by sedentary occupations or indolence, produce their natural results—a plethoric state of system and abundance of inflammatory diseases, both of which will soon be detected, by the attentive observer, in all classes. I am convinced that inflammations are as numerous and violent among Cockneys as among countrymen, and I know that they can only be counteracted by the same means which are just as necessary and safe in the one case as in the other.”

Now the line of argument generally adopted against bleeding is that the gross feeding and copious indulgence in strong drink which characterize the inhabitants of cities, when coupled with the late hours and want of fresh air, which are the necessary concomitants of such a life, render the subjects of it liable to unhealthy forms of inflammation such as make general bleeding, to any large extent, inadvisable. No doubt, both in town and country, young or vigorous persons are met with who will require venesection for acute inflammations, and whom it is right to bleed; but Mr. Lawrence would have us use bleeding as the rule in all inflammations; and he goes so far as to assert that typhoid symptoms are not to be produced by loss of blood. We do not doubt that the experience and feeling of most of our readers will go against his in this matter. As regards the lower orders in Ireland, whether in town or country,

the vast majority of them are not now fit subjects for bleeding; and it is idle to dwell upon the point,

We have given the above as an example of Mr. Lawrence's strong predilections for forms of practice more common in his youth than now, and which he, no doubt, feels the more called on to uphold, as fashion or other reasons may have unduly displaced them. Let us now select a passage or two as examples of the valuable contributions which his life-long experience has enabled him to make to the treatment of disease.

In treating of the management of acute phlegmonous abscess, he very properly objects to the seton as most irritating, and to caustic as unfit except in buboes, which have been left too long unopened. He also censures the undue handling or squeezing of an abscess after it has been opened. In the ordinary course of nature, he says:—

“When the abscess bursts of itself, the aperture is small, and the escape generally gradual; the cyst contracts in proportion as the contents are lessened. Pressure or violence are not only not necessary for discharging the matter, but they give pain and irritate. Still less should you thrust your fingers into the abscess, as I have seen done, or introduce instruments of any kind without necessity. Having made the opening, let the matter run out. Cover the part with a fomentation cloth for half-an-hour, then put on a poultice.

“Since many practitioners are in the habit of puncturing as soon as they find that matter has formed, seeming to regard it as a surgical duty to do so, it is necessary to consider the question generally, which of the two proceedings—namely, leaving an abscess to its natural course, or discharging the matter by puncture—leads to the more favourable termination of the disease. The formation of pus in phlegmonous inflammation—its most frequent effect—relieves or terminates the local disturbance; as the matter advances to the surface, the inflammatory swelling and induration of surrounding structures lessen and disappear, and the ulceration of the thinned skin completes a series of salutary processes by which the sides of the collection are brought into the most favourable state for contracting and coalescing, so as to obliterate the cavity. An early opening not only interrupts the natural process of cure, but often excites fresh inflammation. The sides of the puncture, made in parts of some thickness, will unite by adhesion if left in contact; while, if distended by lint, they become irritated and painful, the ultimate result being a protracted and less favourable cure. These dangers may be avoided by delaying the puncture till the skin has become red and thin—that is, nearly in the state to which it is brought previously to natural bursting.”

Having laid this down as a judicious general rule, he then points

out the exceptional cases in which immediate interference is imperative—such as great depth, neighbourhood to joints and cavities, the cases of tendons, &c. It is, however to the general rule we wish to draw attention, as a judicious protest against the meddlesome surgery which is not unfrequently to be met with, especially among younger men.

Having related or referred to instances in which life has been prolonged from four to ten years or more, by the removal of scirrhus mammary glands, and having laid down general rules for selection of cases for operation, Mr. Lawrence adds the following remarks, in which we heartily concur:—

“Disease of the axillary glands which can be removed, and the commencement of ulceration, are not conclusive against operating if the breast is loose upon the chest, and all diseased parts can be effectually taken away. To refuse operation is to pass sentence of death on the patient, and that of the most painful, distressing and often lingering kind; few minds are strong enough to bear this. To delay and temporise, wasting time in treatment which is sure to be fruitless, keeps up a state of uncertainty and anxiety, with indefinite and exaggerated apprehension of evil, which depresses the spirits, adding unnecessarily to the difficulties of the case, and often leading the sufferer to take refuge in quackery. I consider it a strong reason for operating, particularly if the breast be large, that it prevents the possibility of death by ulcerated cancer, the greatest calamity which can befall a woman. The operation is neither painful nor dangerous; the wound heals, and death may ensue after an uncertain length of time from some internal affection, not usually of much suffering or long duration.”

The book is full of sound precepts of surgery, such as might be expected from its venerated author.

Schweizerische Zeitschrift für Heilkunde.

Swiss Journal of Medical Science.

WE hail with pleasure the appearance of a young and vigorous fellow-labourer in the field of medical periodical literature; and from the promise which its first number affords, we have no doubt of its obtaining high success. No more fitting motto could have been selected, when about to usher a new periodical into the world,

than the words of Virchow, with which our Swiss cotemporary commences the address to its readers:—

“Die Wissenchaft allerdings kosmopolitisch, aber sie ist es nicht zunächst. Jede Nation bringt zu dem grossen Schatze der Wissenschaft ihren Antheil, mehr oder weniger, aber was sie bringt, das soll auch als ihr Antheil betrachtet werden, als der Ehremsmuck, der aus ihrem Geiste genommen ist.”—VIRCHOW.

From an early period to the present time Switzerland has produced many distinguished cultivators of medical science—from the days of Paracelsus to those of Haller and Rilliet. The editors of the new journal are Professors Biermer and Schiff, and Drs. Demine and Ziegler.

Professor Biermer is the contributor of an admirable paper on Syphilis of the Liver and Spleen, illustrated by a well-executed coloured plate. The author is already favourably known to us by his learned work *Die Lehre vom Auswurf*.

There are other valuable communications from Professors Moritz Schiff of Bern, and Billroth of Zürich, and from Dr. Ziegler. From that by Dr. Ziegler, on hydrophobia in the Canton of Bern, we extract the following interesting particulars:—

In the years 1860 and 1861 there were 67 dogs which were undoubtedly affected with hydrophobia, and 27 others which were suspected. The 94 cases were divided according to the months:—

December,	4	March,	10	June,	5	September,	10
January,	7	April,	9	July,	8	October,	11
February,	8	May,	9	August,	5	November,	8
<hr/>		<hr/>		<hr/>		<hr/>	
Winter,	19	Spring,	28	Summer,	18	Autumn,	29

This result disproves the popular belief as to the influence of high temperatures in the production of the disease. Of the above cases there is not one with regard to which we are constrained to assign the disease a spontaneous origin. In a very great number contagion was proved to have been the cause. In almost all the others it was discovered that a short time previously a rabid dog, or one suspected to be so, had roamed about in the neighbourhood.

The disease has also been known to break out in consequence of the bite of a cat, of a buck goat, of a she goat, and of swine.

By the dogs mentioned above at least 30 persons, adults and children, were bitten, all of whom, with one exception, remain well,

although some were severely wounded, and had not sought medical aid until several days had elapsed, The exceptional case was that of a man who died in the Inselspital. One of the dogs bit a woman and a child on the 20th September last year; the former died in four weeks, of hydrophobia, but the child continues up to the present in good health.

A Treatise on Gall-Stones; their Chemistry, Pathology, and Treatment. By J. L. W. THUDICHUM, M.D. London: John Churchill, and Sons. 1863. pp. 323.

THIS work is one which shows extensive literary research, as well as laborious original investigation. It consists of six chapters, or rather distinct parts, and deals with its subject as follows:—It treats of the historical literature of gall-stone disease; the physical description of biliary calculi, and their chemistry. The author then enters on the discussion of the origin and theory of gall-stone disease; its anatomy, and finally, its pathology and treatment.

The work concludes with a series of highly interesting and instructive illustrative cases.

The digest of the historical literature of the subject occupies nearly fifty pages, and extends from the time when Alexander Trallianus wrote in the fifth century after Christ, to the present day, concluding with an allusion to the observations of Frerichs on this disease.

We do not pretend to be competent to pronounce on the accuracy of this historical detail, but we can say that it appears to show great learning on the part of the author, who feels himself sufficiently at home to criticise rather severely the "historical account" of the same affection given by Frerichs, which, according to Dr. Thudichum, "is historical only in this respect, that it contains almost as many errors as sentences."

In speaking of the physical characters of gall-stones, the author does ample justice to the labours of others; as regards their weight, size, shape, &c., he adds but little to the observations of Morgagni, Haller, Buisson, &c. He draws attention to the observations he has himself made, as to the nuclei of gall-stones, containing casts of the biliary ducts; two well executed plates, besides several woodcuts, are given, showing the casts of human bile ducts, from the

centre of gall-stones; and the author very properly takes the opportunity of correcting an error, made in the first year book of the New Sydenham Society, p. 263, with reference to this matter, where it is stated that he had discovered a cast in one gall-stone, while in truth he had found them to be present in eight. It was also stated, that the casts appeared, *from the figures*, to have been covered with crystals of cholesterine; but the author correctly states, that such a supposition is not borne out by an inspection of five out of the six wood-cuts, and he assures us that the original drawings, and the casts themselves, leave little doubt on the subject. In some rare cases foreign bodies have been known to form the nuclei of gall-stones; a dried up ascaris was found by Lobstein, as a gall-stone nucleus, an engraving of which is given in his *Pathological Anatomy*, and copied into the work of Buisson. This latter author himself found a fragment of a liver-fluke forming the nucleus of a soft gall-stone in an ox. A gall-stone weighing four ounces is preserved in the collection at Göttingen, and is known to have been developed in an abscess in the liver, produced by a perforating ulcer of the stomach, which was found by Fuchs and Frerichs, to contain a plum-stone in its centre. Nauche found, in a contracted gall-bladder, a biliary calculus incrustation, of the size of a small filbert, formed round a needle which was two centimetres in length, and which had penetrated the wall of the gall-bladder.

In the chapter on the chemistry of gall-stone, Dr. Thudichum arranges gall-stones in a classification of seven series:—

- 1st. The pellucid or clear cholesterine calculi.
- 2nd. Mixed calculi with prevalence of cholesterine.
- 3rd. Calculi with prevalence of cholochrome (colouring matter of bile).
- 4th. Calculi with prevalence of modified cholochrome.
- 5th. Calculi with prevalence of bile acids.
- 6th. Do do of fatty acids.
- 7th. Do do of carbonate of lime.

Cholesterine, which forms so large a part of almost all biliary calculi, like the colouring matter of the bile, seems to be an ingredient of this fluid, destined for ultimate excretion from the body. It is secreted from the blood by the liver cells, and kept in solution by the biliary salts; when the acids contained in these salts undergo a certain kind of decomposition, cholesterine is deposited mostly in a crystalline condition, and then forms calculi, either by itself, or with the assistance of the colouring matter of the bile, or

the biliary acids. According to the observations of Austin Flint, jun., this material, resulting chiefly from the disassimilation of the nervous tissues, is separated from the blood by the liver; but on arriving in the intestinal canal is changed into a matter named stercorine (identical with seroline). In fact stercorine is the form under which cholesterine is eliminated from the body. It is easy then to perceive how cholesterine enters so largely into the formation of biliary calculi. The colouring matter of bile also enters into the formation of almost all biliary calculi. In adopting the term cholochrome, to indicate all the varieties of the colouring matter of the bile, Dr. Thudichum does wisely, for the terms, cholophaeine, cholochloine, cholepyrrhine, biliphaeine, bilifulvine, biliverdine, cholechlorine, &c., had made the subject of the bile colour one very perplexing to ordinary readers.

Carnivorous animals, it seems, are rarely subject to gall-stone, while these concretions are common in vegetable feeders; they have, however, been met with in almost all classes of vertebrate animals, especially those which have been domesticated.

As regards the theory and origin of gall-stone, Dr. Thudichum dismisses the hypothesis of inspissated mucus, or inspissated bile; mucus is very rarely found in gall-stones, and an inspissation of bile in the midst of fluid bile is incomprehensible. The process, he fancies, by which gall-stones are formed, appears analogous to that which produces, in the urinary passages, phosphatic or fusible calculus. It is a decomposition of the bile, akin to putrefaction. The compound amido-acids, split up into their constituents, under the influence of a course which remains to be ascertained, but is probably a putrid ferment absorbed from the intestinal canal. Under the influence of a little acetic acid, formed out of glyccoll, and some other new acid produced by a putrefactive change, perhaps valerianic acid, cholochrome, a quantity of cholic acid, and a portion of choloidic acid, together with some salts, and a little fat, are deposited. This is the process in the ox, and sometimes in man. But the bile of man differs in this respect from that of the ox—that it contains cholesterine, while that of the ox contains, at most, only a very small quantity as compared to the other. This cholesterine is dissolved in the taurocholate of soda. But as soon as the acid of this salt is decomposed, the cholesterine is set free, crystallizes, and is deposited upon any particle that may happen to be within easy distance, in the manner of all crystals, which like to post

themselves on prominent bodies. Such is the theory of Dr. Thudichum as to the origin of gall-stone.

In gall-stone disease the number of cases in which the calculi are deposited in the ramification of the bile-ducts are comparatively small, perhaps not more than five per cent. Calculi in the bile ducts are also rarely found, when there has not been a definable disease or disorder of the liver during life. Fauconneau Dufresne found branched calculi in the hepatic duct of a patient, who died of phthisis at thirty years of age, in the *Hôpital de la Charité*. In some similar cases the liver has been found changed, not rarely, to the extent of inflammation and purulent destruction. Calculi in the hepatic duct are not of frequent occurrence, obviously because if formed there, they can, so long as they are of moderate size, move on either into the cystic duct, or into the common duct. They are, when found in the hepatic duct, large and immovable, proceeding during life, through small distances, or remaining perfectly quiescent. Gall-stones in the gall bladder, which become so numerous as to keep their relative positions, coalesce sometimes with each other. In this manner the whole of the contents of a gall-bladder has been known to become united together, so as to form one solid mass. Biliary calculi impacted in the walls of the gall bladder, in pouches, or abnormal passages, have been observed in a number of instances, and should be distinguished from a peculiar kind of concretion which is sometimes deposited in the small glands, in the walls of the gall-bladder, and which is not derived from the bile.

As most gall-stones which cause symptoms during life pass from the gall-bladder, they have to make their way along the cystic duct; they occasionally become permanently fixed there, but in most cases pass along the duct without causing any serious or lasting injury. The same may be said of the common duct. Occasionally this duct has been found to be ruptured by the violent vomiting, while it has been distended by the calculus. Calculi may, however, become fixed in the common bile-duct.

An amazing number of gall-stones have occasionally been found in the gall bladder. Hunter found 1,000; Starck, 2,000; Paré, 1,600; Otto, 7,802.

The final chapter of the work deals with the pathology and treatment of gall-stone disease. In speaking of the use of opium the author says:—

“One of the most difficult points in practice is the adjustment of the

dose for every given case, so that on the one hand the pain shall be effectually relieved or mitigated, and on the other no narcotic symptoms of an annoying nature shall succeed the cessation of the pains. This difficulty arises from the circumstance that in some persons the pain and irritation caused by the gall-stones is of such an overwhelming nature as to be scarcely affected even by large doses of anodynes, more particularly tincture of opium given alone, or morphia administered in solution. If it happens that after the ingestion of these large doses of drugs, the pain, by virtue of the drugs or by other circumstances, such as the return or discharge of the calculus, suddenly ceases, the symptoms of poisoning by opium do not fail to make their appearance, and cause a disagreeable, and sometimes dangerous, condition of the patient. This occurred a few years ago to a member of Parliament, then residing in Ireland. Owing to the most urgent requests of the patient, who was writhing with agony, the medical attendant had administered large doses of tincture of opium, on several days, during which the colic continued. At last a sudden cessation of symptoms took place, and the patient became unconscious, and sank into a deep narcotism. From this he was roused by the usual applications, slapping of the body with the hands, cold wet sheets, beating of the surface with sticks, and other means. He was saved from the narcotism, but not from the consequences of the treatment which had saved him—for he died a few days later from the combined effects of the primary pain, the narcotism, and the severe treatment which the latter had necessitated. His case became the subject of a judicial inquiry, which exonerated the medical gentleman from the charge of negligence which had been brought against him. The evidence of several members of the medical profession adduced in his behalf on that occasion, showed that cases in which opium produces unexpected narcotism are not so very rare. The case, therefore, and the evidence elicited by it, suggest great caution in the administration of opium and its alkaloids."

One would hardly understand from the foregoing statement of a case, which will still be well recollected by many of our readers, that the practitioner who administered the narcotic was free from blame. The truth is, that the patient was treated energetically for a very severe attack of gall-stone colic; that he became narcotised after the passage of the calculus; was treated for the narcotism and recovered so as to travel from the west of Ireland to Dublin, where he died, as we have learned on unquestionable authority, of fatty degeneration of the heart. Whether the former treatment may or may not have accelerated the final issue of the case, it is not for us to say; but this we know, that a like accident in practice might befall

the wisest, best, and most careful practitioner, and that according to our judgment, the practitioner in question, never was so fully and completely exonerated as he should have been.

In conclusion, we can strongly recommend the work of Dr. Thudichum as the most learned and complete treatise extant on the subject with which it deals.

A Catalogue of Surgical Instruments, Apparatus, Appliances, &c., manufactured and sold by J. WEISS and SON, 62, Strand, London. 1863. 8vo.

THIS volume consists of fifty-three large plates, containing many figures with descriptive lists, and, though mainly a trade list, it contains an amount of information rendering it capable of being of the greatest use and importance to surgeons, especially to those practising in remote country districts. The contents are classified by bringing the instruments for the several operations together. The letter-press consists of three parts—the illustrated lists, interspersed throughout the plates—the classified list, in which the whole of the instruments are arranged as they are required for the various operations, and which contains descriptions of many instruments not figured—and, thirdly, miscellaneous lists, including those required for the different public services, &c.

It is not necessary at present to speak of the excellence of the instruments manufactured by Messrs. Weiss. The catalogue now published, affords to the most distant surgeon an opportunity of selecting those he may require, almost with the same facility as if he had them in his own cabinet.

PART III.

MEDICAL MISCELLANY.

Reports, Retrospects, and Scientific Intelligence.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.*

TWENTY-FIFTH ANNUAL SESSION, 1862-1863.

MR. HAMILTON, President.

Vesical Calculus.—MR. TYRRELL said that the specimen on the table, was taken from the body of a child aged six years, who had been admitted into Jervis-street Hospital on that day week, and died early the following morning.

On making a *post mortem* examination, he had reason to congratulate himself on not having performed any operation, as he did not believe it would have been possible to remove the stone from the bladder with the slightest chance of success. The history of the case was peculiar, and the following were the particulars given in a letter sent to him by the surgeon under whose charge he had been :—"John Church, aged 6, was three months old when placed in charge of the nurse who brought him to the hospital. The report of the nurse who had him for the first three months was, that he was subject to frequent attacks of pain in the ear, but was otherwise healthy. He was six months old when the nurse's attention was excited by his complaining of pain in the belly, particularly at night, at intervals of two or three months: soon after she observed a stoppage of water, for which she brought him to the Dispensary, and then was advised to take him to Baggot-street Hospital. She did so. He remained in the hospital about six weeks, when stone in the bladder was diagnosed: he was then three years old. The nurse removed him from the hospital, but promised to bring him back, but did not do so. The child was soon afterwards brought to him. With the previous history before

* These reports are furnished by Dr. R. W. Smith, Secretary to the Society.

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him, he had no difficulty in diagnosis. He passed a small catheter occasionally, when necessary, drawing off at each time about three ounces of urine, which was highly albuminous, with copious flocculent deposit; the urine was continually dribbling away for the last twelve months."

When the students had assembled in the anatomical theatre of the hospital he introduced a sound into the bladder and at once detected a stone, which he now exhibited; and so audible was the "click" that it was heard by all present. He removed the stone by the supra-pubic operation, so as to allow it to be placed *in situ* in the bladder afterwards.

The stone found almost filled the entire cavity of the organ. On making the dissection to remove the parts, he was near mistaking the ureters for the colon, so enormously dilated were they—in fact, it was not until he traced them up to the kidneys and down to the bladder that he was certain of the tubes he was dissecting. They were as large as the large intestine, dilated at intervals, and full of pus. The kidneys presented a most remarkable appearance, very much enlarged, the cortical portion almost gone, and the medullary of a light colour; the pelvis of the organ enormously dilated, and likewise full of pus. The mucous membrane of the bladder was not diseased, but the muscular structure was very much hypertrophied, and the cavity very small. The case was almost unique; amongst sixty specimens of diseased urinary organs preserved in the Museum of the College of Surgeons there was not one in so young a subject with anything like the same amount of disease.

The case explained very well how the success of operations for stone depends less on the skill of the surgeon than upon the state of the urinary organs; for the operator cannot fail to reach the bladder with the instruments at present in use, if only cautious; and it is well-known that the native lithotomists of India very seldom lose a patient, although their instruments are of the rudest description.

The child died of a fit of the stone; and had he operated a week or so before, it would have been perfectly impossible for the child to have recovered. There is no doubt but that the child would have been operated upon, as the symptoms would have been attributed to the long irritation of the calculus; and, from the great success of lithotomy in children, and the rarity of disease of the kidneys at so early an age, a successful issue might be anticipated.—*January 24, 1863.*

Amyloid Disease of the Kidney.—DR. ROBERT Mc'DONNELL said that he wished to exhibit to the society a rather remarkable specimen of a not very common disease—viz., amyloid degeneration of the kidney. The following was the history of the case:—

Patrick Cusack, aged twenty-one years, first came under my notice June 14th, 1863, when he was admitted to the hospital of the Mountjoy Government Prison for a scrofulous abscess in the vicinity of the hip-joint.

He so far recovered as to be able to leave hospital on August 2nd; but was re-admitted on September 8th, at which time he was in the following state:—He complained much of debility, but did not appear to be emaciated. A second abscess was forming near the hip-joint, and on the leg of the same side was an old ulcer, which looked as if it were connected with diseased bone. He stated that no portions of bone had ever come from it or the abscesses near the hip. All round his neck were the traces of old scrofulous disease. The abscess near the hip was opened. He was ordered cod-liver oil and full diet, and up to September 27th seemed to be improving in strength. On that day he had a rigor, followed by vomiting and diarrhea, lasting for three days; after which he gradually fell into a state of fever of a low typhoid character. His pulse was very rapid and weak (130–40); tongue furred, but moist; prostration extreme. He had sweatings at irregular intervals, and had the aspect of a patient suffering from pyemia—indeed, for a time, I fancied that purulent absorption had taken place from the hip; which supposition was strengthened by the appearance on the abdomen of some small spots, a dozen or so, which became pustules. He never was delirious, nor had he any convulsions. The quantity of urine secreted was large; and it was so loaded with albumen as to become solid in the test-tube on boiling—its specific gravity was 1020. He never had had any swelling of the limbs, or any effusion into the serous cavities; and neither on this nor the former occasion, while in hospital, had this patient complained of any symptoms drawing attention to the kidneys. It was not until the supervention of the feverish attack that the urine was examined at all. The patient gradually sunk, and died on October 22nd.

Post Mortem.—The heart and lungs were found free from disease—the latter bound to the ribs by extensive old adhesions. The abdominal viscera were also healthy, except the pancreas, which was enlarged and indurated, and the kidneys, which were extensively diseased. These latter organs were much enlarged—one of them weighing nine and a half, the other ten ounces. To the naked eye they presented the appearance of having undergone fatty degeneration. In order to examine carefully the condition of the vessels of the Malpighian tufts one of them was injected with fine injection. The vessels of the tufts were so blocked up that the injection did not penetrate so as to fill a single Malpighian body. While examining, under the microscope, their sections, one could easily see the points at which the injection had ceased to flow within the vessels; beyond this point, when viewed with reflected light, it was not possible to follow the small vessels, or to see the Malpighian bodies themselves. On adding tincture of iodine a remarkable and very striking change was produced. This re-agent produced at once a peculiar discolouration of the Malpighian bodies and their different vessels, so as to make these parts as distinctly visible as if they had been injected—thus giving evidence of the so-called

amyloid degeneration of their structure. I have never met with a case of this degeneration that was so well marked and so extensive. The same, to a certain extent, had occurred to the vessels of the spleen and pancreas; but nowhere to so great a degree as in the kidney.

Dr. M'Donnell observed that there are two varieties of amyloid substance met with in the animal economy, which are quite distinct from each other; of one of which the degeneration now exhibited was a specimen, and which, although possessed histologically of the physical and optical characteristics of starch, yet can not be transformed into sugar capable of undergoing fermentation. Its analysis has been attempted by Schmidt, who has obtained results not favourable to the view of its amylaceous nature. Virchow also admits that he has been unable to form sugar from this variety of amyloid substance. Dr. M'Donnell had tried in vain himself to transform it into sugar, and has not, by any device hitherto thought of, been able to obtain it free from an admixture of nitrogen. The other variety of amyloid substance, discovered by M. Bernard, and well known to physiologists as a material formed by the liver, and entering into the formation of many of the tissues of the fetus, can be obtained free from nitrogen, and can readily be converted into fermentescible sugar.

The amyloid substance of the pathologist and that of the physiologist must, therefore, in the present state of knowledge, be regarded as distinct materials.—*January 27, 1863.*

Stricture of the Œsophagus.—DR. JENNINGS exhibited a specimen of malignant disease of the œsophagus, obtained from a patient of spare, though apparently healthy habit, aged 54, who, in the month of September, had applied to him for relief, in consequence of distress in swallowing, experienced for some time previously.

At this, the first interview, the transmission of solids was, and had been for some days, completely impossible; and even the passage of fluids was effected with great difficulty and attended with much suffering.

Though closely cross-examined, the man was most positive in asserting that his attention had never been directed to his state until about a month previously, during which period, however, the dysphagia had rapidly increased, absolute hunger at length compelling him to seek medical assistance. He also stated that he had never experienced pain to any great extent, except during deglutition, when he was sensible of a stinging sensation.

The history, and the absence of constant pain at first, induced him to hope that the obstruction might prove spasmodic, or be produced by the pressure of some glandular or other tumour. Having first satisfied himself, as far as possible, that no aneurismal enlargement existed, he attempted to introduce an ordinary-sized stomach tube. Not only, how-

ever, did he fail in doing so, but all subsequent efforts to pass even a No. 12-sized long catheter proved equally unsuccessful; and though, by the exertion of some force, he did introduce the point of the latter instrument a short distance within the stricture, yet the sufferings thus induced caused him to abandon further attempts; and from this date until the patient's death, on the 12th inst., he was kept alive partly by the small quantity of fluids which he succeeded in swallowing "guttatim"—but principally by rectal injections of beef tea, &c.

His emaciation was naturally rapid and excessive, and innutrition was the immediate cause of death.

A *post mortem* examination showed the left side of the chest to be perfectly healthy. On the right, however, there existed firm and universal pleural adhesions, evidently of long standing, binding down the lung, which was contracted in volume, dark in colour, and studded throughout with crude tubercles. In the immediate vicinity of the stricture were a number of enlarged and indurated bronchial glands, interspersed through which was a quantity of gritty matter resembling sand. On passing the hand along the spine, the seat of disease was readily detected behind the bifurcation of the trachea—a scirrroid induration of the œsophagus, which, though unconnected with the spinal column, was inseparably united to the "trachea"—in fact, completely amalgamated with it. In the stomach were found about six ounces of dark, thick, non-coagulated blood. Dr. J. considered that the insidious progress of the disease during its earlier stages, and its subsequent very rapid development, was worthy of notice; and that the inseparable connexion of the disease with the trachea well illustrated the tendency that malignant affections, when here situated, have to establish a communication with some part of the respiratory tract, warning the surgeon to be cautious in the attempted introduction of instruments or injection of nourishment into the stomach, especially should the disease have reached the stage of softening, or have happened originally to have been of the medullary species.

The truth of the latter remark, he stated, to be further corroborated by the history of a somewhat similar case which had come under his observation during the course of last summer, and which proved to be one of the malignant œsophageal ulceration. The patient, whose life had been for several weeks supported by the administration of the food introduced into the stomach through a long gum-elastic catheter, repeated every second or third day, suddenly arrested attention by the dreadful fetor of his breath, a symptom which, added to the expectoration of some offensive grumous fluid, proved that this communication had taken place. Some days subsequently, when the tube was being introduced, an escape of gas from its extremity was observed by his colleague, Dr. Shannon, and a lighted taper being applied to it, the flame was instantly extinguished, at once indicating the situation of the instrument, which, from the extent to

which it had entered, might fairly have been supposed to have reached the stomach. The complete immunity from distress which the presence of a foreign body of this description in the bronchial tube might naturally be expected to excite was in this instance most remarkable. An autopsy disclosed an irregular communication, as large as a shilling, between the trachea and œsophagus.—*February 21, 1863.*

Osteoid Cancer.—DR. ROBERT M'DONNELL brought the following case under notice of the society:—

James Breen, aged twenty-five years, first came under my notice in the beginning of June, 1862. He was a remarkably well-made young man, of rather light complexion, nearly six feet high; and as to muscular development, well proportioned. He complained of acute pain along the course of the sciatic nerve and its branches—more especially in the leg and foot. He had no symptom of disturbance of his general health; and his aspect was that of so robust an individual that, I confess, I at first was inclined to regard him as a malingerer. I was soon satisfied that his complaints were genuine; and on June 16th, 1862, admitted him to the hospital of the Mountjoy Prison, regarding his case as one of severe sciatica. He was treated with warm bath, counter-irritation, electricity, and anodyne liniments, without benefit. On July 20th my colleague, Dr. Banon, saw him along with me; mercurialization was suggested. Before determining to commence this plan of treatment, the patient was carefully examined. The right lower limb presented, in some respects, the appearance as in a person suffering from morbus coxæ; it was apparently lengthened, wasted, as compared with the left limb; and the fold of the nates was obliterated. Striking the heel gave pain in the neighbourhood of the hip-joint. The patient could not stand on this leg alone. On getting out of bed he grasped the thigh in his two hands; he never adopted the characteristic manœuvre of a patient suffering from morbus coxæ; and an important symptom of this complaint was wanting. On seizing hold of the thigh, and moving it so as to make the head of the femur rotate in the acetabulum, there was none of that instinctive rigidity of the muscles, producing what Mr. Adams has called vital ankylosis. The case being an obscure one, I hesitated to mercurialize the patient; and for a time continued the warm baths and other palliative treatment.

In the beginning of August a fulness was observed under the gluteus maximus, at its inferior margin; fancying that this might be caused by a psoas abscess (of which, in the groin, no evidence could be detected), pointing in a not very usual situation, I examined the patient while in a warm bath, when the muscles were quite relaxed. I then detected a hard, roundish tumour in the iliac fossa, as I should say, behind the caput coli. There was no feeling of fluctuation perceptible between the fulness in the gluteal region and that in the iliac fossa; neither was

there any impulse communicated on coughing to the gluteal swelling. I now arrived at the conclusion that my patient was the victim of malignant disease; and on leaving Dublin, at the end of August, I requested my friend who did duty for me in my absence, not to make even an exploratory puncture, lest it might accelerate the progress of the case, or be followed by a fungus springing from the opening.

On my return, after a month's absence, I found my patient greatly changed. He was peevish and irritable, greatly wasted, hollow-eyed and sallow; the tumour within, and that also without the pelvis, had increased greatly in bulk; the right leg was paralysed as to motion; the foot, leg, and back of the thigh, were absolutely devoid of the power of feeling, except a patch above the ham, which felt perfectly.

The nature of the complaint was only too obvious; and its progress now became rapid. Oedema of the penis and scrotum, followed by oedema of both lower limbs, came on suddenly, and to a dreadful extent. This took place, no doubt, at the time when the mass had so extended as to press on the ascending cava; and, at the same time, large veins first became visible over the tumour.

The oedema was relieved by acupuncture. Fortunately opiates agreed with the patient, and his excruciating pains were thus allayed. He suffered much from diarrhea; but sank very slowly. The tumour, before death, having arrived at this great size, without having at any point made its way to the surface. He died on February 19th, 1863.

The *post mortem* examination disclosed an enormous mass (the size of a man's head) of that form of malignant growth described by Paget and others as osteoid cancer. When cut across it was found to spring from each side of the os innominatum; and was, in great part composed of bony structure, although portions of it were devoid of osseous matter, and presented the ordinary character of colloid cancer. The appearances, both to the naked eye and microscopically, corresponded so accurately with the description of osteoid and colloid cancer, given by Paget, that one might suppose his account to have been taken from the morbid appearances in this case. Several isolated masses of colloid existed as independent growths in the gluteal and neighbouring muscles; the peritoneum was not engaged in the disease; neither were the mesenteric glands enlarged in any considerable degree. In the lung alone of the viscera were there found masses of cancerous matter—the largest not bigger than a filbert; some of these also contained bone, and, as to microscopic structure, were identical with the large tumour. The vena cava was completely plugged by a clot, which, although easily separated from the walls of the vessel, and nowhere continuous with the mass filling the iliac fossa, had, nevertheless, all the characters of the malignant structure. Microscopically examined, it was found to contain nucleated cells, identical in appearance with those of the cancerous growth from

the innominate bone and from the lung. The clot, also, at its lower part, was, in a great degree, converted into bone; the upper portion of it, in the cava near to the heart, was loose within the vessel, nodulated in a remarkable way, and contained none of the bony spiculæ found in the lower part.—*February 21, 1863.*

Femoral Hernia.—MR. TUFNELL exhibited a cast, and also the preparation, of a case of femoral hernia of unusual size. It was taken from the body of a woman sixty-six years of age, who was admitted into the City of Dublin Hospital on the night of the 25th of February. Twenty-six years back, upon the occasion of her first confinement, she complained of a sudden bursting sensation, situated at the outer border of the right thigh, followed by a hard tumour which remained, about the size of a plum. She had subsequently nine children, and at each successive delivery this tumour increased in size and hardness; but otherwise gave her no annoyance. About two years since a second tumour presented itself, situated towards the inner side. This tumour was reducible; and whenever it became inconvenient she could pass it back into the cavity of the abdomen, through what she described as being “a small hole about the size of the point of her little finger.” Within the last two or three months she had begun to be subject to fainting fits, and sometimes (after dinner especially) she would have to lie down upon the floor in consequence of pain in this tumour, it being so excessive. Upon the afternoon of the 25th, after dinner, she had one of these fits; and on recovering found that the tumour had become nearly the shape and size now exhibited in the cast—viz., oval in form, and fourteen inches across over its summit. It was totally irreducible. Mr. Tufnell saw the case about twelve o'clock on the morning of the 26th, and found the tumour tensely strangulated, irreducible under chloroform, after the introduction of O'Beirne's tube, the administration of injections, &c. The tumour remained unchanged, and at three o'clock he operated. The operation was extremely difficult. The sac was excessively tense; it appeared to be not thicker than tissue paper, and the stricture was equally tight, and overlapped. When the size of the sac, which he exhibited, was compared with the mass it contained, as indicated by the cast, it could easily be understood how the sac should have been so tense, through the containing of so large a body. It consisted partly of intestine and partly of omentum, &c.; and the omentum was evidently the hard tumour which had existed for the forty-four years, and had been irreducible during the whole time. During each successive delivery an additional portion had come down, and it had never been returned. The patient lived for two days after the operation, but never recovered from the collapse.

The case was interesting from the unusual size of the tumour, and from the fact of the hernia being purely a protrusion of the omentum for

forty-four years, and then, subsequently, an intestinal hernia succeeding to it; and also it was interesting from the fact that after this long period of omental occupation of the sac not the slightest adhesion should have taken place.—*February 28, 1863.*

Disease of the Ankle Joint.—DR. ROBERT M'DONNELL said that the patient from whom the limb which he now exhibited was removed, had been admitted into Jervis-street Hospital on the 26th of January last, suffering from a dislocation of the right ankle, complicated with fracture of the fibula. The end of the tibia had been driven through the skin at the inside of the joint; the fibula had been broken a little above the outer malleolus. The patient stated himself to be fifty-six years of age; but looked much older. On admission the dislocation was readily reduced; but the case did not progress favourably. He was attacked with erysipelas, which, although it did not extend high up the limb, was followed by abscesses, accompanied by profuse suppuration and hectic. In consultation the removal of the limb was determined upon; and amputation was performed on Monday last.

The appearances within the joint were rather interesting. It contained pus, and was in a high state of inflammation; the synovial membrane very vascular; the cartilage almost gone, both from the astragalus and lower extremity of the tibia. In fact, the specimen exemplified remarkably well the process by which nature accomplishes the erosion of the cartilage, when a joint is attacked by disorganizing inflammation. The arteries of the amputated limb were like the trachea of a small bird from ossific deposit in their coats.—*February 28, 1863.*

Hemorrhagic Diathesis.—DR. FOOT exhibited some of the viscera of a boy who died from the hemorrhagic diathesis. He had been in the Meath Hospital under the care of Dr. Wharton, by whose permission the specimens were shown. The patient had been subject for more than a year to habitual bleeding, which had been, from time to time, checked by medicine and by pressure applied to the nasal cavity, whence the hemorrhage proceeded. He was on the verge of syncope on many occasions; and sometimes symptoms of cerebral anemia developed themselves. There was no history of any family peculiarity, or hereditary predisposition with respect to this diathesis. He was in hospital about Christmas; and after being very much relieved by treatment, went home. He had been very fond of, and had been much accustomed to eat salt meat—which he was desired not to do. He neglected this precaution; and about two days previous to his being last admitted, was attacked with bleeding from the right nostril. He was then in a restless, unmanageable condition, similar to that which is observed in women after childbirth, complicated with profuse hemorrhage, when they sometimes quite lose all self-control.

Having been told that his nose should be plugged, he made the greatest possible resistance; because he had previously suffered some pain from that operation. However, with a great deal of difficulty—as he was quite unmanageable—the right posterior and anterior nares were plugged. The plug, of lint, was steeped in a solution of the tincture of the muriate of iron; and though this was not the pure solution, but had a great deal of water in it, so much pain and reflex action were excited by the smarting of the styptic, that the posterior plug could hardly be kept in its place by the two cords. The anterior plug was at once sneezed out. He exclaimed that the plug scalded him; and he would soon have removed it had he been allowed. This pain subsided in a few minutes. The hemorrhage, however, did not return; but next day there was general anasarca. His pupils were contracted; he had marked cerebral respiration; vomited constantly, and died on the evening of the next day but one. The body was perfectly blanched, and presented no hypostatic congestion. Dr. Foot was anxious to find out whether the conditions exhibited in the body supported the opinions of the Berlin or Vienna school; and with this object examined the liver and spleen with great care, knowing the opinions held by Virchow—that every permanent change in the condition of the circulating juices must be derived from definite points in the body, from individual organs or tissues; and that in this dyscrasia the spleen is very liable to be at fault. In this instance the liver was normal in shape, size, and structure. The only thing to be noticed was that the colour was light; because the tint of the gland was altered by the absence of blood. The spleen was remarkably small—weighing but $2\frac{1}{2}$ oz.—shrunk up, and shrivelled like the spleen of a cholera patient. The kidneys were perfectly pale; the heart was hypertrophied, and the fibrin of the blood was represented by two small light red coagula in the right, and one in the left ventricle. The walls of the aorta were much thinner than usual at the same age. With respect to hypertrophy of the heart occurring in a boy aged only twelve years, he could only suppose it to be due to a similar cause as produced hypertrophy of that organ in Bright's disease. As the case did not, in appearance of local visceral origin, at all support the views of the Berlin school, he thought it might be explained according to the theory of Rokitsanski, that a primitive anomaly existed in the blood—it being deficient in fibrin, albumen, and blood corpuscles. This hydremia, coupled with a preternaturally delicate and vulnerable structure of the vessel-coats, completed the conditions existent in the hemorrhagic diathesis.—*February 28, 1863.*

Disease of the Supra-renal Capsules.—DR. DUNCAN said he was indebted to Dr. Mayne for being able to show the specimen which he now presented, of bronzed skin disease. Dr. Mayne, not having been in attendance at the hospital at the time the patient was admitted, kindly

placed the woman under his care. The case, illustrated in every essential particular but one, all the symptoms and features of the disease, as originally described by Dr. Addison—namely, the age of the person and her appearance; the obscurity of its origin; the asthenia, without any sensible cause; the peculiar colour of the skin; the weakness and irritability of the stomach; the peculiar condition of the intellect; the suddenness of her death; and the implication of the supra-renal capsules.

The patient was an unmarried woman, about forty years of age; and had filled a confidential situation in a family of respectability for fifteen years. During her life she uniformly enjoyed good health. She was a woman of rather stout build, though of the ordinary size, with a good deal of flesh about her.

No assignable cause could be given, either from her circumstances, habits, or previous history, for the commencement of this disease. About a year and a-half, or, perhaps, two years, before her death, she began to feel a loss of strength; her appetite became bad; and she began to be affected with some irritability of stomach. About the same period, a change in the colour of her skin was noticed; but it was so trifling at first that it passed off for a long time without attracting any observation. It gradually increased, and became, at length, a source of anxiety to the patient. She came to the hospital on the 8th of March, and died on the 13th. The symptoms under which she laboured at the time of her admission were weakness, loss of appetite, and irritability of stomach, for which there was nothing in her general history to account. Her appearance exhibited the peculiar character of wasting described by Dr. Addison—her muscles were large and flabby, but soft; and the skin had not at all the appearance or feel, such as was usually met with in ordinary cases of emaciation. It was impossible to get her to take any nourishment from the time she came into the hospital, owing to the irritable state of her stomach. The condition of her intellect was peculiar. She was shy and uncomplaining; and it was difficult to get her to explain anything about herself; in fact she wished not to be noticed, or to give any opportunity for examining her. Her master, who took a great interest in her case, was told, from the first, of the possibility of her sudden death; but none of those who saw her had the slightest idea that it would occur so suddenly as it did, taking into account the small amount of emaciation which she presented. The day before her death a peculiar change took place. She was evidently much worse, and seemed like a person intoxicated. She was ordered wine; but had not taken any. She was restless and excitable, and did not seem to know the persons about her, or to take any notice of them; and when her master came in to see her she could barely be got to answer that she knew him. In the course of the evening an attack of diarrhea came upon her, and carried her off. In one respect the case differed

from that described by Dr. Addison ; namely, as regards the pigmentation, which he speaks of as being uniformly diffused over the body, whereas, in this instance, it was partial. The colour was very obvious in the face and the exposed parts of the neck and arms, and also at the flexures of the joints, upon the fronts of the thighs, and at the navel ; but the rest of the skin—contrary to the usual condition described by Dr. Addison—seemed to be very much of the natural hue. Dr. Addison's description embraced a uniform change of colour over the whole person, with darker shades at particular parts. The drawing by Mr. Conolly, which he now exhibited, gave a very accurate idea of the colour. The tint was slightly different from that given by Willis, in *Guy's Hospital Reports* ; but corresponded a good deal with what Dr. Willis described as the walnut-juice colour. He was, unfortunately, unable to make a complete *post mortem* examination. Her master refused to allow it to be done, without the consent of the woman's relatives ; and, after an hour had been spent in trying to obtain that consent, he was at last obliged to take, without leave, the kidneys and supra-renal capsules. The kidneys were perfectly healthy ; the capsules presented evidences of degeneration. At the head of the capsules was an appearance of yellow tuberculous or scrofulous matter. Dr. Richardson had kindly examined them under the microscope ; and though he had not made a perfect examination, the matter was found to consist, to a large extent, of inspissated, fatty globules, corresponding with the statement given in the last number of *Guy's Hospital Reports*, of some sort of chronic inflammatory degeneration, rather than anything else. In reference to the connexion between the two symptoms of the discolouration of the skin and the implication of the supra-renal capsules, Dr. Willis had very largely tested the matter in Guy's Hospital, by examining every individual upon whom a *post mortem* examination could be made—no matter what disease it might have been that proved fatal ; and out of 500 cases only two were met with in which the capsules were implicated, but in which there was no change of colour on the surface. On a closer examination it appeared that this exception was more apparent than real. In one of the two cases there was a change of colour on the surface ; but it was of so trifling a nature as to have escaped notice at first. In the other the supra-renal capsules were really not implicated ; but there was some disease on the surface of the gland, Dr. Willis, in his last paper on the subject stated that the essence of the disease was not the change of colour ; but the progressive asthenia, this peculiar form of asthenia, coming on at a particular period of life, running its course in opposition to every treatment, and ultimately killing the patient.

Whether the discolouration of the skin would, in the present instance, have extended over the whole body or not, had life been further prolonged, it was impossible to say ; but at the time of the patient's

death it had not extended beyond the parts delineated in the drawing.—
February 28, 1863.

Malignant Tumour.—DR. FLEMING exhibited a cast and preparation of a malignant tumour, lately removed by Dr. Hutton from the right side of the neck, beneath the jaw. The patient was a man aged 45, seemingly otherwise in excellent health. The tumour had become as large as a moderate sized orange in the space of a year and eight months; its growth was unattended by pain, and it continued movable beneath the skin. Upon inquiring further into the patient's history, it appeared that he had, some time previously, received upon the forehead, a blow from a pistol, and that, in the situation of this injury, a small tumour grew up, which, judging from the treatment adopted, was probably regarded as malignant; it was destroyed by the application of the chloride of zinc.

Upon making a section of the tumour now presented to the notice of the meeting, its malignant nature was very apparent; and upon placing some of the more fluid portion of it under the microscope, the anatomical characters of cerebriiform cancer became strikingly evident. A second and smaller tumour, which lay in close contiguity with the larger one, was removed along with the latter, and presented also the characters of malignant disease. Since the operation the case had gone on well, but it was obvious that the prognosis could not be otherwise than unfavourable. The remarkable healthy aspect of the patient, the perfect mobility of the tumour, and its obvious freedom from any deep-seated attachment, were the chief circumstances which induced Dr. Hutton to perform the operation.
—*March 7, 1863.*

Cancrum Oris.—DR. STOKES exhibited two specimens of the disease termed "cancrum oris." One of them was taken from the body of a little girl, who had been for a long time in a state of extreme misery and want. She had been brought to an institution for destitute children, from which, after a few weeks, she was transferred to the Meath Hospital.

When she was admitted, it was very difficult, indeed, to give a name to her disease; she was emaciated to the last degree, made little or no complaint, lay quietly in bed, had a miserable appetite, and a quick small pulse; but there were no local symptoms whatever to be discovered.

In this state she remained for more than a fortnight, when it was observed, one morning, that the right eyelid was puffed and slightly livid; and on close examination, purulent matter was seen in the anterior chamber of the eye. It was evacuated by Mr. Porter, and very soon after the operation, the œdema of the lid subsided; but upon the following day it was discovered that the arch of the palate was destroyed. Within twenty-four hours, certainly, the bones of the palatine arch were gone,

and a probe could be easily passed from the nostril into the cavity of the mouth.

This was followed by a puffy swelling just below the *alæ nasi*; and in the course of a very short time sloughing of the soft parts followed. In this state the patient lived for several days; she was constantly crying and throwing herself about in bed, and died apparently from irritation.

The case, Dr. Stokes observed, was one of pure *cancrum oris*; there was not the slightest reason to believe that the child had got a single grain of mercury before entering the hospital. Many were of the opinion that there were two forms of the disease—one, the non-mercurial, the other the mercurial *cancrum oris*; but recent observations rendered it probable that the latter received the name from the fact of the symptoms having followed the use of mercury. But when they reflected on the very liberal, and frequently injudicious use of that medicine, the chances were, that in any given case of no matter what acute disease, the patient would have got some mercury. Dr. Stokes alluded to the papers published by Dr. Duncan in the *Dublin Quarterly Medical Journal* of 1845 and 1852, in which, he thought, this question had been very ably dealt with.

The second specimen which Dr. Stokes exhibited was procured from the body of a child brought to the Meath Hospital from the same institution as the girl whose case had been detailed. The patient was in the same physical condition, though not debilitated to the same degree.

The child had been attacked with measles of a low character; the debility was considerable; and from an early period of the exanthema, diarrhea was present, and continued during the entire illness of the patient, with but slight intermission. The eruption gradually subsided, and everything seemed to be going on favourably, when, after the child had been in hospital for more than a fortnight, the symptoms of *cancrum oris* made their appearance. The disease developed itself first on the mucous membrane of the cheek; at a very early period, indeed, the lower jaw had become denuded and carious, and there was a shocking fetor from the breath.

There was not at any period much external swelling; the little boy gradually sunk; the ulceration in the cavity of the mouth extended downwards towards the pharynx; his breathing became more and more obstructed, and in this condition he died.

It was an interesting fact connected with this case that, on dissection, there appeared not only the disease in the mouth but also a great number of points of *sphacelus* in the lungs, the pulmonary structure being replaced by collections of putrid sanies intermixed with the debris of the lung. In this respect the case resembled one brought before the society on a former occasion by Dr. M'Dowel, when the lungs became inoculated with fetid purulent matter, carried down by the lateral sinus and jugular vein from a carious temporal bone.

Upon examining the lungs after death, their texture was found destroyed in a great number of points, and in all these situations there had been deposited a fetid, sanious matter. So far as the appearance of the mouth was concerned, there was nothing to be observed that was not well known before; but those noticed in the lungs seemed to throw some light on the history of this putrid disease, and to show that a morbid poison was generated, which was conveyed to other parts and destroyed them. It was possible that the original nature of the mortification in these cases was analogous to that indicated by Sir Benjamin Brodie, and which he supposed proceeded in the first instance from the blood.

Dr Stokes next alluded to the early death of the bones in the cases he had brought before the meeting, and to the observations of the late Mr. Wallace on the occurrence of necrosis of the lower jaw in cases of cancrum oris. He exhibited a specimen, for which he was indebted to Professor R. W. Smith, showing one half of the lower jaw, necrosed, and, along with the teeth, enclosed in a new formed shell of bone. Professor Smith had brought this specimen before the Society in 1840, and had recorded it in the 17th volume of the *Dublin Medical Journal*, page 518.

In connexion with the disease he had brought before the meeting, he might observe, that it seemed to be closely allied to the affection of children termed "noma pudendi;" in fact, he was strongly disposed to consider them identical; and he might here direct the attention of the members to the excellent paper published by Mr. Wilde in the 27th volume of the *Dublin Quarterly Medical Journal*, upon the case of Greenwood, who was tried for rape on a child, in which he drew the attention of the Legislature to the error of overlooking this disease, and, in cases of supposed rape of young children, of attributing to violence, appearances which were caused by the disease now known as "noma pudendi." After a lengthened trial, Greenwood was found guilty of the crime attributed to him; but there could be no doubt whatever that, whether rape was committed or not, the appearances on which the conviction was obtained were those of the disease described by Mr. Kinder Wood in the 7th volume of the *Medico-Chirurgical Transactions of London*, as "a very fatal affection of the pudendum of female children." The question of course, would arise as to what was the value of finding the symptoms of noma pudendi in a case of supposed rape? Again, supposing that the patient had the disease, was the prisoner on that account to be acquitted? Certainly, if the symptoms and appearances of the disease were present, then all the medical evidence which ascribed the destruction of the parts to violence should be rejected.—*March 14, 1863.*

Intestinal Obstruction.—DR. MAPOTHER said he had been requested by Dr. O'Ferrall to exhibit this specimen. The patient, a young woman twenty-six years of age, was admitted into the hospital two months pre-

viously. She was perfectly healthy until July last, when, having partaken of a large quantity of unripe fruit, she was attacked, in a few hours afterwards, with intense pains. From that date she had been never entirely free from occasional attacks of colic. She suffered during the winter in the same state, with hardly any relief until a month before her admission into St. Vincent's Hospital, when she applied to a physician, who prescribed purgatives. These operated so severely that she fainted in the act of freeing her bowels next morning. She was admitted into St. Vincent's Hospital for extreme constipation; for ever since the extreme cathartic dose she had never been able to free her bowels without the use of medicine. When she came in, the extremely tympanitic state of the abdomen was the only striking symptom. She suffered no remarkable degree of pain; but during the month that she lingered in hospital she suffered three or four severe colic attacks.

On the morning of her admission she was examined by Dr. O'Ferrall, who found a tumour two inches in diameter, extremely hard to the touch. Throughout the case there never was the slightest inflammatory action, or pain or tenderness of the abdomen. The striking symptom was the extreme constipation. About a fortnight before she died she vomited an extremely large quantity of thin matter, smelling apparently of intestinal contents, but not completely feculent; it was of a yellowish colour, like gruel. All through there was no feculent matter discharged by stool. So complete was her rejection of food that during the last ten days that she lingered, none whatever was given by the mouth; but she was fed three times a-day by strong enemata of beef-tea. The tympanitic condition was peculiar: it did not extend over the entire abdominal cavity, but only existed in the neighbourhood of the umbilicus. There was not the slightest tympany on turning the patient towards the side and percussing the lumbar regions, which suggested that the obstruction was in the vicinity of the cecum. She also passed a great quantity of urine, which was healthy. She died on that-day-week; and, on a *post mortem* examination, they were remarkably struck by the enormous size of what could hardly now be called the small intestines. They were, when first removed, full six inches in diameter. The mass of small intestines in the neighbourhood of the cecum, together with the greater part of the lower portion of the cecum itself, were converted into a hard mass, which appeared solid throughout; but on making a section of the outer surface of it, and introducing a No. 1 catheter, it passed through a sinuous opening in the lower part of the cecum, and the opening of the vermiform appendix was completely patulous. There was, then, not the slightest passage from the cavity of the ileum into that of the cecum. At present some slight passage had taken place. There were, then, two strictures—one being a complete stricture of the ileo-colic opening. The rest of the colon appeared to be perfectly healthy. In the lower portion of the

cecum, which was more healthy than the other, he discovered two foreign bodies, which he now exhibited. One was a plum stone, and the other was a black substance, of a fibrous nature, resembling woody tissue, and seemed to be the fruit-stalk of a plum. The mass was extremely hard, but did not present any of the characters of colloid or other form of malignant disease. It was composed, microscopically, of a great number of undeveloped cells and fibres. All the other organs were healthy.—*April 25, 1863.*

PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.*

TWENTY-FIFTH ANNUAL SESSION, 1862-63.

DR. BEATTY, President.

Report of Cases of Delivery by Forceps, in the Rotundo Lying-in Hospital, for Ten Months, from June 1st, 1862 to April 1st, 1863. By JOHN CROMY, L.K.&Q.C.P., L.R.C.S.I., Assistant Physician Rotundo Lying-in Hospital.

I. June 3.—Johanna Doyle—primipara—aged 34, delivered at 7 30, p.m.; 16 hours in labour; 7½ hours in second stage; 20 minutes third stage; first cranial position; fetal heart audible; male; inertia; 2 doses of ergot given without effect. Died, June 8, of uterine phlebitis.

II. June 15.—Norah Geoghegan—primipara—aged 30, delivered at 5 45, p.m.; 19 hours in labour; came in in second stage; third stage, 8 minutes; male; still-born; fetal heart inaudible; inertia. Died, June 21st, of metritis and peritonitis.

III. June 29.—Margaret Clare—primipara—aged 28, delivered at 7, a.m.; 31 hours in labour; came in in second stage; third stage, 10 minutes; male; first cranial position; fetal heart audible; inertia; head locked in pelvic brim; great difficulty in extraction; post-placental hemorrhage; dose of ergot, cold, &c. Discharged July 9.

IV. July 27.—Mary Cleary—primipara—aged 28, delivered 6, p.m.; 19 hours in labour; came in in second stage; third stage, 5 minutes; male; still-born; fetal heart inaudible; first cranial position; inertia; head in perineum for 7 hours. Discharged August 5.

V. August 9.—Catherine Mathews—third child—aged 30, delivered at 12, night; 19 hours in labour; 8 hours in second stage; 10 minutes third stage; first cranial position; fetal heart audible; male; inertia. Discharged August 17.

* These reports are supplied by Dr. Geo. H. Kidd, Secretary to the Society.

VI. August 12.—Margaret Barry—primipara—aged 26, delivered at 7, a.m.; 25 hours in labour; second stage, 7 hours; third stage, 10 minutes; first cranial position; fetal heart audible; male; inertia. Discharged August 19.

VII. August 13.—Eliza Bourke—second child—aged 36, delivered at 4 50, p.m.; 15 hours in labour; $2\frac{1}{2}$ hours in second stage; third stage, 5 minutes; face to pubes and hand to head; fetal heart audible. Discharged August 21.

VIII. August 15.—Bridget M'Dermott—primipara—aged 38, delivered at 7 50, p.m.; 30 hours in labour; twins; first footling; second head; membranes ruptured at the end of an hour, and dose of ergot given; in $2\frac{1}{2}$ hours forceps applied; child still-born; inertia. Discharged August 24.

IX. August 16.—Susan Barnett—second child—aged 24, delivered at 11, a.m.; 17 hours in labour; second stage, 8 hours; third stage, 20 minutes; male; first cranial position; fetal heart audible; inertia; post placental hemorrhage; dose of ergot. Discharged August 24.

X. September 19.—Teresa Adams—second child—aged 24, delivered at 10 30, a.m.; 13 hours in labour; second stage, 3 hours; third stage, 15 minutes; first cranial position; fetal heart audible; male; inertia; head on perineum $2\frac{1}{2}$ hours. Discharged September 26.

XI. September 27.—Mary Glinty—primipara—aged 28, delivered at 11 30, p.m.; 26 hours in labour; second stage, 6 hours; third stage, 25 minutes; first cranial position; fetal heart audible; male; inertia; hand to head; head on perineum 4 hours; post placental hemorrhage; dose of ergot. Died, October 3, of puerperal scarlatina.

XII. October 21.—Ann Reilly—primipara—aged 22, delivered at 3, a.m.; 12 hours in labour; second stage, 5 hours; third stage, 30 minutes; fetal heart audible; female; had one fit of convulsions. Discharged October 29.

XIII. October 30.—Margaret Magee—second child—aged 18, delivered 3 40, p.m.; $29\frac{1}{2}$ hours in labour; $7\frac{1}{2}$ hours second stage; third stage, 20 minutes; face to pubes; fetal heart audible; male; still-born; difficulty in extraction of head; shoulders hitched in pelvic brim; narrow pelvis; child large, weighing 10 lbs. 7 ozs. Discharged November 11.

XIV. December 11.—Mary Farnell—primipara—aged 19, delivered at 6, p.m.; 32 hours in labour; second stage, 7 hours; third stage, 5 minutes; third cranial position; fetal heart audible; inertia. Discharged December 22.

XV. January 12.—Jane Byrne—primipara—aged 25, delivered at 11 15, p.m.; 16 hours in labour; second stage, 8 hours; third stage, 25 minutes; first cranial position; fetal heart audible; female; chloroform; narrowing of pelvic brim and outlet from deformity of pubic arch. Died January 18.

XVI. January 23.—Ellen Daniel—primipara—aged 23, delivered at 7 15, a.m.; 22 hours in labour; second stage, 8½ hours; third stage, 5 minutes; 3 × 2 cranial position; fetal heart audible; female; head on perineum for some hours; inertia. Discharged February 3.

XVII. January 23.—Mary Haddock—primipara—aged 20, delivered at 5 45, a.m.; 14 hours in labour; second stage, 5 hours; third stage, 40 minutes; first cranial position; fetal heart audible; female; chloroform; inertia; vomiting; great excitement; albuminuria; convulsions threatened. Discharged February 15.

XVIII. January 31.—Catherine Holdbrook—primipara—aged 19, delivered at 11 15, p.m.; 16½ hours in labour; second stage, 8½ hours; third stage, 45 minutes; first cranial position; fetal heart audible; female; chloroform; retained placenta from morbid adhesion; introduction of hand for removal. Discharged February 9.

XIX. February 8.—Eliza Murray—sixth child—aged 30, delivered at 6, p.m.; 11 hours in labour; second stage, 7 hours; third stage, 10 minutes; first cranial position; fetal heart audible; male; accidental hemorrhage; disproportion; head very much compressed; child born with suspended animation; restored by Marshall Hall's method. Discharged February 16.

XX. February 8.—Margaret O'Callaghan—sixth child—aged 32, delivered at 10 20, p.m.; 17 hours in labour; second stage, 3 hours; third stage, 15 minutes; first cranial position; fetal heart audible; female; disproportion; great excitement and hysteria; chloroform; delivered in hospital by forceps 9 and 5 years previously. Discharged February 18.

XXI. February 9.—Anne Byrne—primipara—aged 38, delivered at 12 15, a.m.; 33½ hours in labour; 3½ hours second stage; third stage, 30 minutes; first cranial position; fetal heart audible; female; inertia; great exhaustion and debility; hemorrhage, post placental; ergot, wine, brandy; very quick pulse. Died, February 14th, of uterine phlebitis.

XXII. February 21.—Eliza Corbett—second child—aged 30, delivered at 10 10, a.m.; 15 hours in labour; second stage, 10½ hours; third stage, 15 minutes; first cranial position; fetal heart audible; male; chloroform; ergot 38 minutes before delivery; inertia; former delivery, in hospital, by vectis. Discharged March 5.

XXIII. February 22.—Catherine O'Neill—primipara—aged 16, delivered at 8 50, p.m.; 21½ hours in labour; second stage, 6½ hours; third stage, 15 minutes; first cranial position; fetal heart audible; female; convulsions; one very bad fit; delivered during fit; urine albuminous. Died February 24, of "peritonitis and pneumonia."

XXIV. February 26.—Sarah Farrell—primipara—aged 25, delivered at 11 50, p.m.; 18 hours in labour; second stage, 5½ hours; third stage, 20 minutes; first cranial position; fetal heart audible; male; inertia. Discharged March 13.

XXV. March 10.—Martha Pierson—primipara—aged 21; twins; first born 3 15, p.m., second at 4, p.m.; 56 hours in labour; second stage, 6 hours; third stage, 30 minutes; males; inertia; ergot given without effect; first delivery by craniotomy, forceps being ineffectually applied; second by forceps; face to pubes. Discharged March 22.

XXVI. March 12.—Mary Fitzpatrick—seventh child—aged 36; delivered at 3 15, p.m.; 24 hours in labour; second stage, 9 hours; third stage, 10 minutes; fetal heart audible; male; very difficult extraction; very large child. Discharged March 20.

During the above period of ten months, the forceps were applied and deliveries effected in 26 cases out of 856 patients delivered in hospital, being rather over 3 per cent.

Of the mothers and children, in 17 cases both were saved, and in one both were lost; in 5 cases the mothers died, and the children were preserved; and in 3 cases the mothers recovered, and the children were lost. There were 17 primipara; 5 in labour of the second child; 1 of the third; 2 of the 6th; and 1 of the seventh. Of the 26 cases, 18 were for inertia, 6 for disproportion, and 2 for convulsions. There were 6 deaths of mothers—2 from uterine phlebitis, 2 from metro-peritonitis, 1 peritonitis and pneumonia, and 1 puerperal scarlatina. Of the children, 6 were still-born; in 4 cases the fetal heart was inaudible. In addition to the 26 cases detailed, the forceps were ineffectually applied in 3 other instances, and craniotomy afterwards resorted to.—11th April, 1863.

Dr. KIDD read the following paper on *The Mechanism of the Expulsion of the Head in Face to Pubes Presentations*.

The cases in which the head passes through the pelvis, with the face presenting to the pubes, are not numerous; thus, in Sinclair and Johnston's report, there are but thirty-three cases recorded, in 13,748 deliveries, in which this occurred. This circumstance will probably account for the fact, that in the majority of systematic treatises there is no account given of the mode in which the head escapes from the outlet of the pelvis in such cases. In one book, however, which has recently come under my observation, the subject is incidentally alluded to in connexion with the directions given as to the use of the forceps, when it is requisite to afford assistance in such cases. The directions are so peculiar, and so much at variance, not only with what I consider to be the true mechanism of such labours, but with my own experience and mode of operating, that I think it well to bring the subject under the notice of the society. I shall read the passage I refer to, as it occurs in *Bedford's Principles and Practice of Obstetrics*, first premising that Dr. Bedford uses a forceps with a second, or lateral, curve, and, when operating, places the patient on her back, the hips brought to the edge of the bed, and the feet supported by an assistant at each side:—

"Second Position—the Occiput, regarding the concavity of the Sacrum, the Face to the Pubes.—It will at once be seen that the head here is completely reversed; and, moreover, in this position the forceps will, in the majority of instances, be indicated for the reason of the protraction of the labour; for you are not to forget that the occiput, being posterior, must have traversed the entire length of the posterior wall of the pelvic cavity—consisting of the sacrum and coccyx—before it can make its exit; and, as a general rule, the increased duration of the labour will have so far perilled both mother and child as to render it necessary to resort to the forceps. But, in addition, any of the accidents already mentioned would constitute another motive for the use of the instrument. The rules for the introduction of the forceps are precisely the same as in the first position. It is well, however, to remember that there will be more difficulty in the extraction of the head in this second position, and the force employed should be more guarded, for the face cannot be brought under the pubes with the same facility that the occiput was in the preceding case, because of the greater irregularity of its surface. Again, the distension of the perineum will be much greater because of the rounded and more prominent configuration of the occiput. It must also be recollected that in this position the forceps, as soon as the head begins slightly to protrude, instead of being elevated, must be depressed, for the purpose of bringing the chin from the sternum, so that when the head is delivered the instrument will be at a right angle with the spinal column."

I do not stop to criticise the statement in this passage, as to the forceps being required in the majority of such cases, but pass at once to the direction that "the forceps, as soon as the head begins slightly to protrude, instead of being elevated must be depressed, for the purpose of bringing the chin from the sternum, so that when the head is delivered the instrument will be at a right angle with the spinal column," as it is, I believe, founded on a mistaken view of the mechanism of such labours; and it is to this point I wish to direct the attention of the society.

With a view to the illustration of what I conceive to be the true mechanism of such presentations, I will narrate two cases:—

On 21st September, I was called to see Mrs. —, an out patient of the Coombe Hospital, residing in Ardee-row, in labour of her first child. The membranes had ruptured early. I saw her at noon. The head was at the brim of the pelvis; the anterior lip of the os uteri was rigid; she had vomiting and restlessness; her pulse was quiet; the head in the fourth position of Nægelé. I ordered an opiate, and saw her again at 3, p.m., when no advance had been made, the anterior lip still retarding the progress. I pushed up the lip, and applied the forceps, but could not move the head without using more force than I thought advisable, and therefore withdrew the instrument.

At 4 30, Dr. Churchill, in the absence of my colleagues, Drs. Sawyer and Ringland, saw her with me. No advance of the head had been made; the anterior lip had again descended; the pains were troublesome, but not effective. We ordered a dose of ergot, and that the anterior lip, which was still down, should be supported.

At 8, p.m., I again saw her, when I had the benefit of the assistance of both Drs. Ringland and Sawyer. The ergot had produced ergotic pains, the lip had gone up, and the head was slightly lower in the pelvis. I again applied the forceps, and with great difficulty effected delivery. I made some effort to turn the head into the first position, but could only move it very slightly, and with the next pain it resumed its former place, and I extracted it with the face to the pubes, allowing the head, as it came to the outlet, to determine, in a great degree, its own course. As soon as the forehead came under the symphysis pubis it rested there, and the occiput began to make the sweep of the perineum, when it was necessary to carry the handle of the forceps forwards, between the mother's thighs, and even more up on the abdomen than when the head is in the first or second position.

The rectum did not at any time open out, nor did the perineum become as much distended as in delivery in the first and second position.

The child was still-born, in consequence, I believe, of the ergot. The mother recovered. The sphincter ani was not injured.

The next case was one of labour at the eighth month, with a roomy pelvis, and a putrid child, with the bones of the head separated. On visiting her I found a portion of the scalp protruding through the vulva, the face to the pubes, and the pains inefficient. I made an assistant keep his hand on the uterus and make pressure, and, grasping the scalp, made such traction as I could. The pressure over the uterus seemed to help its contractions to expel the child. The head came down till the chin cleared the arch, and then the occiput swept over the perineum.

These cases appear to me to illustrate the mechanism of expulsion in such labours under two conditions:—1st. When the head is large, and fits the pelvis closely, the head descends till the forehead, where it joins the nose, rests on the arch of the pubes; here it rests, as the occiput does in the first and second position, and the occiput makes a sweep of the perineum; but in the second case, where the head was small and softened, it descended lower, and the chin emerged before the rotation began or the occiput swept the perineum; and I would lay it down as a rule that, when it is necessary to use the forceps in face to pubes presentations, the handles should be carried well forward as soon as the forehead emerges from under the arch of the pubis.—11th April, 1863.

Forceps.—At the opening of the meeting of the 8th of May, the PRESIDENT made the following statement:—

Before we proceed to the regular business of the society, I wish to ask your attention for a few minutes to a circumstance arising out of a passage in the address which I had the honour to deliver at our first meeting this session. In alluding to Dr. Graily Hewitt's highly practical and very valuable paper, in the 3rd volume of the *Transactions of the Obstetrical Society of London*, I said the forceps described and recommended by him, corresponded in every particular with my forceps, described and represented twenty years ago in the *Dublin Medical Journal* for 1842; so much so, that one would be disposed, at first, to think him guilty of piracy—but that I entirely acquitted Dr. G. Hewitt of any such intention, as it was very likely he never read my paper or saw my engraving. I was led into what I now find was a mistake by the manner in which Dr. G. Hewitt described his instrument. He says:—"The length of the blades is eight inches instead of six and a-half or seven, and the curve is an arc of a circle of fourteen inches in diameter, instead of ten or eleven." The plate accompanying Dr. Graily Hewitt's paper, represented an instrument so like mine that, taking his account of the length of his blade, I was at once struck with the resemblance, and noticed it as a coincidence, but never for a moment considered it a copy. In the description of my forceps, I mention that the length of the blade to the lock is eight inches, just what Dr. Graily Hewitt states his to be; and thus the error arose. In a correspondence which I have had with Dr. G. Hewitt, he states:—"You are not quite correct in saying my forceps is identical with yours; I have carefully examined your plate, and I find that my forceps has a longer blade than yours; the two are in the proportion of eleven to ten. When I say my forceps is eight inches long, I do not mean that it is eight inches from the point to the lock, but that it is eight inches from the point to the crossing of the blades when locked. From this it results that my instrument has a working length about seven-tenths of an inch more than yours." Dr. Graily Hewitt has kindly furnished me with a diagram, representing the two instruments in juxta-position, which I have now the pleasure to submit to your inspection, and from it you will perceive that Dr. G. Hewitt is quite correct in what he has stated. I forwarded one of my instruments to Dr. Hewitt, with a request that he would kindly send me one of his, and I am happy to say, he at once and most promptly complied with my wish. It affords me very great gratification to be able to exhibit the instrument to you this evening, and thus to give you an opportunity of seeing that there is a difference between the two instruments. I very much regret the error into which I was unintentionally led, but it entirely arose from Dr. Hewitt's not mentioning the points from which his measurement was taken in his original paper. If he had explained, as he has since done, that he did not adopt the usual mode of measurement, this mistake could never have occurred.—*8th May, 1863.*

Ruptured Uterus.—Dr. J. R. KIRKPATRICK exhibited a ruptured uterus taken from a patient who had been delivered in the Lying-in Hospital. The rupture was at the right side of the uterus, extending through the cervix, and upwards for about three inches. A large quantity of blood was effused in the cavity of the abdomen, round the seat of injury. The structure of the uterus did not appear to be diseased. The patient was a delicate sickly-looking woman, 30 years of age. It was her fifth pregnancy; her former labours had been easy. She had been two and a-half hours in the second stage, when rupture took place. The head was the presenting part, and was hydrocephalic, containing 32 ounces of fluid. The labour pains had not been strong, or bearing down at any period of the labour. Craniotomy was immediately performed; but she sank and died in six hours after delivery—8th May.

Cursory Remarks on Scarlatina; relating chiefly to its Natural History and Treatment. By HENRY KENNEDY, M.B., one of the Physicians of Sir Patrick Dun's Hospital.

At a late meeting of this society, the chairman, Dr. M'Clintock, suggested that the debate then going on, in reference to Dr. Halahan's paper on "Puerperal Scarlatina," might be adjourned with advantage. Acting on this hint, I venture to bring the disease, as it is usually met amongst the young, again under notice. When, many years since, some account of scarlatina, which then prevailed for a lengthened period in Dublin, was published by myself, I had not enjoyed those opportunities for treating it which have occurred since; for what I have now to offer has reference mainly to treatment. Two points only I would premise here:—First, that the remarks will be strictly cursory; and so I will only notice such parts of the subject as I believe to be of importance; and, secondly, that the remarks will be taken in a general way—that is, as being usually applicable. General principles, I believe, are all that should be attempted in speaking of the treatment of any disease, for every case must be dealt with according to the symptoms it presents; and, what is of more consequence, every one must learn this for himself. I would not make the former remark, but that some recent writers, amongst whom may specially be mentioned Professor Bennett, of Edinburgh, have endeavoured to render the treatment of some acute diseases, as pneumonia, quite a routine. On this point I shall only say here that the cases detailed by the Professor himself afford a flat contradiction to his theory.

And now, as to the more immediate subject of my remarks; and, first, of the sore throat attending scarlatina. Is the treatment by caustic too indiscriminate? I rather think so; and I believe I have seen mischief, in the shape of the external swellings, come on as a consequence of caustic being applied to the whole of the inner throat. And, if we consider

the extent of surface inflamed, and the constant secretion going on from it, there appears to me sufficient reasons for, at any rate, exercising caution on the point. Of late years, I have used caustic to the ulcerated parts alone, and this only when the surface was very painful; for all whom I address must be aware of the very marked contrasts which exist amongst patients—some suffering a great deal from the act of swallowing, &c., and others literally nothing. When, then, the former state exists, the destruction of the surface of the ulcer by lunar caustic is usually followed by marked relief, and is, of course, judicious.

Cleanliness, and the removal, as far as may be, of all the secretions from the throat, I believe to be of very much greater consequence than the use of caustic; and, where the patients are of such an age as to be unable to assist themselves, by gargling or otherwise, too much attention cannot be given to the point; and, with the assistance of such an elastic bag as is used for syringing the ears, a great deal may by this means be done. I am the more anxious to call attention to this, because it has, I have found, much more to say to the welfare of our patients than might at first sight appear. I mean the removal, as far as lies in our power, of the morbid secretions poured out, which may do injury in more ways than one. They may keep up the vomiting, which, as all know, so often ushers in the attack in the severe cases of the disease, but usually subsides within the first thirty-six hours. It may, however, last very much longer, and become most serious; nor could I attribute it in those cases I have seen to other cause than the secretions being swallowed, and, acting on this idea, have arrested it by the use of an emetic, which is an old and popular remedy at the beginning of the attack, but which, it is not so generally known, may be used with good effect much later. The following was a case in point:—

CASE I.—Miss —, a young lady of fifteen, was seized with a sharp attack of scarlatina, ushered in by severe vomiting and purging; after thirty-six hours the latter ceased, but the vomiting continued, in spite of treatment specially ordered to control it; and so went on for a whole week. During this period she got a certain amount of broken sleep, and I observed that it was after it she always had the vomiting, which was preceded by nausea, of which she complained much. In this state she was given a mustard emetic, which acted strongly; but it had the effect of at once putting a stop to the vomiting and nausea.

The principle of using emetics at this late stage of the disease I believe to be worth keeping in mind; and Copland, I find, recommends the same. It may be mentioned that I have often used them in common fever, and with advantage, at the same stage.

In place, however, of the stomach being the organ which suffers, or appears to suffer, from the morbid secretions, it may be the bowels, showing itself by diarrhea—not that which so often ushers in the attack,

but a recurrence of it, or even a tendency to it, at the end of a week or longer. This state always demands a special attention, for I know of none so apt to be attended or followed by serious complications. No single symptom, I believe, ought to guide our prognosis more than this one. A confined state of the bowels is safety in comparison; and something of the same obtains, I rather think, in some cases of puerperal fever.

Of the complications which may arise at this stage of scarlatina—that is, after the patient has been seven or eight days ill—I shall here only call attention to the secondary fever. All know that in small-pox secondary fever very commonly, though not always, comes on, and is frequently the cause of death. But it is not so generally known that exactly the same thing occurs in scarlatina; and as regular typhus as it is possible to be, with the exception of the spots, may arise. It is best marked when the disease attacks adults; but it is also to be seen amongst children, and, both in adults and children, may be the direct cause of death. Hence it is of importance to be aware of such a point in the natural history of scarlatina, for to be forewarned is to be forearmed. The occurrence seems to be due to the absorption of the morbid secretions, just as takes place in small-pox, and is an additional reason for paying every attention to the point already spoken of this evening—that is, their removal, as far as lies in our power. On the treatment of this kind of fever I have nothing specific to offer. It resolves itself into the general principles which are applicable to all acute diseases of a low type, which must, of course, be modified according to the demands of each case.

Of the medicines which answer best in scarlatina the acids appear to me to merit the first rank. I have found them far superior to either the chlorate of potash or the much-vaunted carbonate of ammonia. Cases do occur where the fever presents more of the sthenic type, and in which the chlorate may be given with good effect. It acts very generally on the skin, and so relieves the patient. But it must always be watched; for cases are not uncommon where the alkaline treatment, as I may call it, so far from doing good, does positive harm, by causing rapid waste of the system, and having a strong tendency to run off by the bowels; and this seems to me still more marked with the carbonate of ammonia, about which salt a special work has been written—I forget by whom—giving it the most unqualified praise in the treatment of scarlatina. Against such a use of it I must hold out a caution. We must never overlook now the effects of alkalies—and these, it will be recollected, are established facts—on the frame, even in health. But when, in addition to this, we recollect the type which most acute diseases have assumed of late years, there appears to me to be the strongest grounds for exercising a great caution on the matter; and the rule I would venture to lay down would be, that if the fever presents the sthenic type, with a hot dry skin and full

bounding pulse, alkalies may then be given with advantage; but the moment these subside our medicines should be changed to those of the opposite class. Cases of this type are, no doubt, exceptional; still they do occur. It may be added that this principle, which I hold to be most important, does not apply to scarlatina alone, but to almost all the acute diseases of the day.

It has been already stated that the treatment of scarlatina by acids is that which answers best. Of these the muriatic, in the proportion of one or two drachms of the dilute acid to the pint of fluid, seems to suit well. This medicine was a great favourite of the late Sir Henry Marsh, who used it in acute diseases of the low type, including common fevers; and, whether it be due to the chlorine or not, it certainly seems to possess marked antiseptic powers. It was very much used by the older writers, of the last century, and in the same type and class of diseases; so that it has a large experience in its favour, and has, besides, the advantage of being readily taken by children.

But there is another form in which this acid may be used; and, from what I have seen of it, one very likely to be more largely given than it is at present—I mean the tincture of muriate of iron. Within this two years I began to give it in scarlatina, having been led to use it, in the first instance, in a case where erysipelas attacked the face, just after the rash had declined, and fever had risen a second time; and here its effects seemed very decided. It is curious, of nearly all the cases where erysipelas appeared with, or just after, scarlatina, the former came out of the nostril, if I may so speak, and spread then over the face. The exceptional cases occurred in puerperal scarlatina, and then the erysipelas came from the vulva.

Did time permit I could give cases of the two diseases occurring together, and treated, with success, by the preparation of which I am speaking. But I must hasten on; and shall only say that its use in such cases led me to give it in the simple disease, and I think I may say with advantage. In the cases in which it was tried it seemed to act even more favourably than the simple muriatic acid; that is, by apparently shortening the stages of the disease; but it is not of such general application as the simple acid. It was given as follows:—Tincture of muriate of iron, two drachms; syrup, half an ounce; distilled water to four ounces; a tea-spoonful in water each three hours. I am not aware whether anything on this preparation has yet appeared in print as being used in bad scarlatina; but I have learned that others in this city have so used it. Professor M'Dowel is one of these.

To the use of anodynes during the progress of the disease I would call the attention of the meeting, as I believe them to be little, if at all, used as they deserve. Many years since, I satisfied myself, by *post mortem* examination, that whether we had raving, convulsions, or coma to deal

with, these were not dependent on inflammatory action; and, besides, the late Dr. Graves, who wrote so ably on scarlatina, had given a full trial to the antiphlogistic treatment, but without a corresponding success. These considerations led me to the conclusion that, as it was some irritation we had to contend with, so there was the greater probability that anodynes might be of use, and under this idea they were given; and, as it was mainly children with whom I had to deal, the tincture of hyosciamus was, as a matter of prudence, the one chosen. That it acts, and powerfully too, on children does not admit of doubt, no matter how we may explain Mr. Donovan's experiments; and enough of experience has, I think, now been afforded to enable me to speak with some confidence on the point. When the raving or great restlessness exists, the tincture is given, either as a draught at night, or in small but continuous doses, till rest or quiet is obtained; and in this way the dose has varied from half a scruple to three drachms at once. Opiates, I should say, have also been tried; but they require at least as much caution as in common fever; and with children to deal with, it is best, as a whole, not to use them. The idea of giving anodynes at all may, very probably, have arisen in my mind from Dr. Graves having so strongly recommended tartar emetic and opium in certain stages of fever; for the class of cases of scarlatina of which I am now speaking affords the closest analogy to the cases in which that physician gave the tartar emetic and opium. At any rate the principle is one which seems to me well worthy of being followed, and as such is mentioned here.

In connexion with, at least, some of the cases of raving, and of others where none exists, there is a point in their natural history worthy of note. I mean the occurrence of crisis, just as marked as ever occurs in common fever, and most generally by sweat. I am not aware of having read this anywhere; but I have now seen the pulse fall from 120 to 80 within the twenty-four hours, at the same time that a general perspiration was present, too frequently to have any doubt on the matter. The same thing, too, may be met with in measles; and the possibility of its occurrence should not be forgotten, as our treatment will be modified by it.*

In the last place, I would make a few remarks on the use of wine, and which, it may be recollected, was one of the chief topics brought forward in Dr. Halahan's paper on Puerperal Scarlatina. Whilst agreeing with him in the general principle of the great benefit to be derived from its free use, I wish I could consider it as an agent on which we might at all

* In this present month (May, 1863,) a boy, of sixteen years of age, was admitted into Dun's Hospital, labouring under a very severe attack of scarlatina. He had a rapid pulse, livid extremities, a dark eruption, and raving. Whilst being treated with wine, tincture of muriate of iron, and an anodyne, at night, with the rash still out, a marked crisis by sweat appeared, and within thirty-six hours this case could be pronounced out of danger. My colleagues, Drs. Smith and Moore, saw the case.

rely as much as he seems to think we may. I have seen it fail too often, in puerperal cases especially—and even given very freely—to have such confidence in it. The truth is, wine, though having some other valuable qualities, must be looked on as mainly a stimulant. On the other hand, puerperal scarlatina, at least as I have seen it, and even in numerous cases of the simple disease, presents characters which show a profound alteration in the blood itself. Patches of redness, spots of purpura, sometimes erysipelas, an extraordinary tendency to stripping, &c., all betoken this, and force us, as it were, to employ some agent or agents which may counteract such tendencies. Whilst, then, I would not for one moment think of discarding wine, I would not trust it alone, but conjoin with it such medicines as the experience of the day warrants; and amongst those I believe none holds out a better prospect than the muriatic acid and the tincture of muriate of iron, of which I have already spoken. To these it might be well to add the internal use of barm, which, in cases of common fever, I have often seen used with marked benefit; I mean fever presenting all those bad signs which puerperal scarlatina, in its worst form, exhibits. I may mention, that one of the few cases of the latter disease which I have seen recover, did so under the use of barm and wine; and it appeared to me improvement directly followed the administration of the barm, for she had been getting wine previously.

In speaking of the use of wine in these cases it may be well to know that, just as occurs in simple fever, cases are common where it is not borne well. The patient either refuses it, or the symptoms do not better under its use. In these circumstances it is always best to take the hint, and act accordingly by not pressing it.

In those cases of scarlatina where wine is required, it is usual to combine with it fluid food, such as beef tea or chicken broth. Now, I do not deny that in many instances this is quite right; but I would venture to suggest that a proper discrimination be made. It seems to be a general impression that if wine be suitable beef tea must be so likewise; and we are told to keep up the patient's strength by all means. Now this seems to me a serious mistake, and in no acute disease more so than scarlatina; but, having spoken generally on this point in another place, I shall only add here, that if it be not attended to, and a proper judgment formed in each case, secondary inflammations will be sure to arise, and so render most serious what would otherwise have gone most favourably through its several stages.

In concluding these cursory remarks, which may well be entitled "*dissecta membra*," the meeting will probably allow me to recapitulate the heads of the several points which have appeared to me worthy of their notice:—In the natural history of the disease there were the occurrence of vomiting at a late stage of the attack—the supervention of secondary fever, quite analogous to what occurs in small-pox—and the

occurrence of crisis, as marked as is seen in common fevers; and on the treatment, the more restricted use of the nitrate of silver to the inner throat—the use of emetics at a late stage of the attack—the very questionable benefit arising from the use of alkalies, including the carbonate of ammonia—the use of anodynes, especially the tincture of hyosciamus, as best suited to children—the administration of the dilute muriatic acid, and its combination with iron—and, lastly, the importance of separating wine in its effects from those of beef tea, the effects of the two being in very marked contrast.—8th May, 1863.

DR. DE RICCI read the following paper *On the Use of Sulphites and Hyposulphites in the Treatment of Zymotic Diseases* :—

Professor Polli, of Milan, has, for several years past, devoted much of his time to the investigation of zymotic diseases in general, but more especially of those which depend upon purulent absorption, with a view, if possible, to discovering an agent which would be capable of destroying those fermenting principles which are supposed to be the cause of these diseases, while it would be, at the same time, innocuous to the constitution. In May, 1862, *The Dublin Quarterly Journal of Medical Science* published a short review on Dr. Polli's work *On the Use of Alkaline Sulphites in the Treatment of Diseases depending on Morbific Ferments*, and that valuable periodical fully recognised the importance of his researches. Since that time I have been in direct correspondence with the Italian professor, and, having received from himself much additional information, together with the request that I would prominently bring the subject of his investigations before the medical profession in this country, I have complied with his request, and do so at present by laying a brief sketch of his labours and results before the Obstetrical Society of Dublin.

I should have been happy if I could have brought additional personal evidence of my own to corroborate Dr. Polli's accounts, but, unfortunately, my opportunities have been very limited. I have, however, proved to my complete satisfaction that the sulphites of soda, potassa, and magnesia, which are the remedies he relies on in cases of purulent infection, can be freely administered to human beings, even in large doses and for a considerable time, without producing any disagreeable consequences; and this fact will, I trust, induce many to give a trial to these substances in every case they may appear to be indicated, in order to test their real value.

I do not stop now to argue whether these so-called zymotic diseases really depend upon the presence in the circulation of a special ferment, as their name would imply; it is generally thought to be so, and for the present we must take it for granted, as Professor Polli bases all his theory and practice upon that assumption. The great physiologist Bernard held this view, and believed "that fermentation may arise in the blood, and

give origin to poisonous principles, which may, in their turn, produce certain grave accidents in the living frame;" but adds:—"We cannot neutralize these ferments in the living organism; *it is impossible*; because, to effect such a purpose, it would be necessary to interfere with the characters of the blood to such a degree that it would no longer be capable of maintaining life." The Italian professor, however, thought differently. He had long been studying the antiseptic effects of sulphurous acid upon animal substances; he had established, by repeated experiments, that animals recently killed, if suspended in a well-closed vessel, containing but a small quantity of a solution of sulphurous acid in water, just sufficient to supply, by evaporation, a slight atmosphere of sulphurous acid gas, would keep perfectly fresh for months. He also established, by direct experiment, that sulphurous acid, in very small quantities, had the power of preventing not only the ordinary vinous fermentations—a fact well known in all wine countries—but also those other fermentations, such as the diastatic, by which starch is converted into glucose, that of the pancreatic juice upon fatty substances, and that of emulsine upon amygdaline; and he came to the conclusion that in sulphurous acid we possess a substance capable of arresting every form of catalytic action. But sulphurous acid could not, with impunity, be introduced into the animal economy; so the professor turned his attention to the compounds of sulphurous and hyposulphurous acid, which, by analogy, he hoped to find equally capable, though probably in a minor degree, of arresting the action of ferments. He was not disappointed. He found that the action of the sulphites of soda, potassa, and magnesia was quite as decided as that of the acid itself in preventing fermentation; while, at the same time, he fully established the fact, that an animal, such as a dog, can take as much as fifteen grammes (225 grains) of an alkaline sulphite per diem, during a whole fortnight, without any inconvenience. I can fully corroborate the assertion of Dr. Polli so far; and am happy to be able to add my testimony to the fact of the perfect tolerance, by even the human stomach, of the sulphite of soda in full doses. I have often prescribed it, during the last two years, in doses of as much as one drachm three times a day, without producing the slightest gastric derangement; and, although I have not, as yet, had an opportunity of testing its value in a case of either pyemia, puerperal peritonitis, or glanders, still the results I obtained in the cases I employed it have led me to hope much, from its extended use in all diseases arising from purulent infection or septicemia.

Before relating, however, the results of my small experience in this matter, I wish to lay before the society some further account of Professor Polli's investigations. Having satisfactorily proved to himself that animals can bear with impunity large doses of sulphites, he took three dogs of about the same size; two of these he fed upon food containing

sulphite of soda, the third he fed exactly alike, only minus the sulphite. After twenty-four hours the three animals were killed, and, by analysis, he discovered the presence of the sulphite in the blood, the liver, and the urine of the first two dogs, while, as might have been anticipated, he found none in the third. This was a very valuable experiment. It proved that the sulphites, *as such*, were carried into the circulation; and, if they were able to prevent and even arrest the action of an animal ferment outside the body, Professor Polli argued that they might equally prevent or arrest the action of a ferment within the body; and, as the dogs which had been largely dosed with sulphites had shown no bad effects from it during life, nor any organic lesion from the use of them when examined after death, they having been purposely killed while still under the full influence of the sulphites, he concluded that in all probability we possessed in the compounds of sulphurous acid, with earths and alkalies, a means of arresting catalytic action in the animal economy without in any way interfering with the vitality of the blood—contrary to Claude Bernard's assertion, that any substance capable of destroying the action of a ferment in the living body would exert so destructive an action on the blood itself, as to imperil its vitality. Professor Polli now varied his experiments. He administered two grammes of sulphite of soda daily to a dog, for the space of five days; at the end of that time he drew off two ounces of blood, and exposed it to the air in an open vessel, beside another vessel containing blood drawn from a dog to whom no sulphites had been given. In a very few days the blood of the latter dog was quite putrid, while that of the dog which had been dosed with the sulphites was perfectly fresh even three weeks later. Two great facts had now been arrived at:—1st. That sulphites, when administered to a living animal, are carried, *as such*, into the circulation, and diffused all over the organism without the slightest inconvenience to the animal; and, 2nd. That the presence of these salts in the liquids and solids of the body retards the putrefactive fermentation for a very considerable period. Dr. Polli, having obtained such encouraging results, proceeded to more crucial experiments. He took two dogs of about the same size, and equally in good health; he fed them exactly alike for five days, with the exception of administering to one of them two grammes of sulphite of soda daily—the other dog getting exactly the same food, minus the sulphite. At the end of five days he injected into the femoral veins of both animals one gramme of pus, taken from a fetid abscess occurring in a broken-down constitution. The operation, in both cases, was carefully performed, and the animals suffered but little. Immediately after the injection both dogs appeared stupefied; they lay down and refused all food, remaining quite prostrate for twenty-four hours. On the following day, however, they both seemed a little better, and took some food. A second injection of pus was now practised on both animals to the same amount, but the first dog had, the

meanwhile, been getting two grammes of sulphites daily, while the other was only getting plain food. The effect of the second injection was most interesting; both dogs were affected instantly alike; both were seized with stupor; in both the pulse was rapid, but feeble, while the respiration was greatly accelerated. Both dogs refused to eat; both lay down in a state of stupor; and, when made to rise and walk, they tottered and reeled across the room. The first dog, however, continued to receive, daily, a dose of two grammes of sulphite of soda, and in four days was so far recovered as to be able to eat his food with relish, while the wound in the femoral vein was rapidly healing. The other dog fared differently; he got no sulphites, either before or after the operation, and the result was that he daily became worse; the wound in the thigh became gangrenous, the limb swelled up, and ten days after the second injection the dog died with all the symptoms of typhus, the first dog being already about and well. The result of this experiment was highly satisfactory; but the professor did not rest satisfied with it, so he again proceeded as follows:—On the 9th of March, 1861, he injected into the femoral veins of three dogs three grammes of putrid blood to each. (This blood was defibrinated bullock's blood which had been kept for four months; it was quite putrid, and exhaled a highly fetid ammoniacal odour.) The three dogs were about the same size, and were fed exactly alike, with the exception of dog No 1, who, for two days previous to the operation, had taken sixteen grammes of sulphite of soda in one gramme doses. A few minutes after the injection the three dogs were affected very much alike. No. 1 vomited almost immediately, looked ill, lay down at once, and for several hours refused all food; the following day it was still heavy and stupid. Two grammes of sulphite of soda were administered to it, and repeated the following days; on the third after the operation the dog was already much improved, and by the fifth it was perfectly well. Of the other two dogs, one, after having vomited, remained standing, with its legs wide apart and its head hanging down; it shook and shivered all over, then fell on its side, panting violently; gradually it became worse and worse, and finally died in five hours. The other suffered much in the same way; it lived five days, during which it was too weak to stand; it did not eat; the wound in the thigh became gangrenous, and it expired comatose, with all the symptoms of typhus fever. It was examined after death, when the lungs were found of a deep red colour, dotted all over with ecchymotic patches, some of which had suppurated in the centre, the right cavity of the heart was filled with black grumous blood, while a pale yellow fibrinous clot filled not only the left ventricle, but extended also into the aorta. The whole gastro-intestinal tract was injected, and smeared in places by purulent matter.

This same experiment was now repeated in a modified form. Two dogs of nearly same weight, in good health, were submitted to an

injection of one gramme of putrid blood each ; but in one case the blood was diluted first with three grammes of a saturated solution of sulphite of soda. Both dogs were very ill at first, and both dogs recovered eventually ; but while the dog which had received the diluted injection was only sick for two days, the other was more than a fortnight before it struggled into convalescence.

This was a very valuable experiment. It showed that these sulphites can with safety be introduced directly into the circulation, without in any way endangering the vitality of the blood. I should have premised that Dr. Polli had previously tested the safety of injecting a solution of sulphite of soda into the circulation by trying it in healthy dogs, and had done so repeatedly without any bad results.

Encouraged by the evident success of his experiments Dr. Polli determined to test the efficacy of the sulphites by bringing them into direct antagonism with one of the most virulent of animal poisons, that of glanders. He took a strong, healthy dog, and, having made a cutaneous incision between its shoulders, where the animal could not reach with its mouth, he introduced through it into the subcutaneous cellular tissue, some discharge obtained from the nares of a glandered horse. In a few days the wound became gaping and ill-conditioned ; the dog looked ill, heavy, and stupid ; it refused its food ; and, by the fourteenth day, the animal had a number of unhealthy pustules over his body, which spread out into ill-looking, sanious ulcers. The dog became daily worse ; and finally died twenty-six days after the inoculation. An examination after death revealed a highly injected condition of the mucous membrane of the stomach, with many ecchymotic patches. The intestines were highly vascular, and of a dark livid colour ; while the lungs were thickly studded with apoplectic clots. Professor Polli now took two large dogs, as similar as possible both in size and health, and having administered to one of them eight grammes daily of sulphite of soda, he injected into the femoral veins of both dogs three grammes each of the muco-purulent discharge obtained from the nares of the same glandered horse which had served for the previous experiment. The first dog which had received the sulphites seemed at first to suffer the most from the injection. It at once fell to the ground as stunned, and its breathing was rapid and panting ; but in a few hours it began to recover, and the following day it was able to eat. The second dog bore the operation better, and did not appear to sustain so severe a shock ; but on the following day it began to mope ; towards evening it was very drowsy, and with difficulty it could be got to stand ; by the third day the animal's extremities had become œdematous and painful ; by the fourth, a purulent discharge was running from its nose and eyes—the wound in the thigh was now almost gangrenous ; on the sixth day the animal died, worn out by pain, fetid suppuration, and diarrhea. The first dog was by this time completely recovered.

I might relate many other instances of equal interest, as Professor Polli has repeated these experiments nearly a hundred times, *almost always with a successful, always invariably with a satisfactory result.* He seems to have clearly established that, contrary to C. Bernard's assertion, those ferments which, in the animal frame, are capable of originating zymotic diseases, *can be neutralized* by substances which do not in any way prove injurious to the animal economy. I cannot bear full testimony to the correctness of Professor Polli's experiments, not having as yet had as ample opportunities of testing their accuracy as I could wish; but I can bear testimony to the harmlessness of the sulphites of soda, potassa, and magnesia, when administered internally, even in large doses; and I think that in three cases in which I employed these remedies I observed a decided improvement after their administration. One was a case of phthisis, with excessive purulent expectoration. The patient took for several months one scruple of sulphite of soda three times a-day, with very manifest advantage. In this case, although the cure was hopeless, I gave the sulphite with a view to diminishing the purulent secretion, and I was not disappointed. Another case was that of a gentleman who consulted me about an unpleasant eruption by which he was tormented, and which looked extremely like rupia. He assured me, however, that he had not had syphilis for eighteen years previous; and I have no reason to doubt his assertion. I gave him half drachm doses of sulphite of soda three times a-day, in a bitter infusion, and in a short time he became perfectly well. I gave him no other medicine. The third case was one of constantly recurring boils, some of which were sufficiently large to require incisions. The patient was a young gentleman in easy circumstances, well nourished; and although a student in an English university, not in any way broken in health by over study. He had been suffering from these troublesome boils for upwards of six months. After trying divers remedies, I placed him under a course of sulphite of soda, giving him one drachm of the salt three times a-day; and in less than a month not a boil could be seen on his body, though his face, neck, and shoulders still exhibited plentiful traces of his former tormentors.

It is not in private practice, however, that the real value of a remedy can be fairly tested. I have proved to my satisfaction that the sulphites are, at any rate, uninjurious to the animal economy. It now becomes the duty of those physicians and surgeons who enjoy the incomparable advantage of hospital practice to put these remedies to the test. It is to them that my friend, Dr. Polli, appeals. "To the test of clinical investigation and clinical result I leave the issue of my discovery," are his words to me.

If Professor Polli has not deceived himself—if these sulphites really have the power of neutralizing animal poisons, even after their absorption into the circulation—his discovery would be as great, if not greater, than

that of Jenner. Nothing can be more candid than his conduct has been throughout. He has made no secret of his discovery; and nothing can be more modest than his constant expression:—"I wait for the verdict of the clinical students of Europe."

In conclusion, I earnestly beg to call the attention of all practitioners, and especially of those who enjoy the privilege of hospital practice, to the subject of this paper. Let these remedies be tried in every case in which they offer a chance of success, both in the treatment of disease and as prophylactics also. Whenever they meet a case of scarlatina, let them treat not only the patient, but let every individual in the family take a certain quantity daily of one of these sulphites; and let the same plan be adopted in every case apparently depending on some zymotic poison, whether fever, pyemia, septicemia, or puerperal peritonitis.

TRANSACTIONS OF THE COUNTY AND CITY OF CORK MEDICAL AND SURGICAL SOCIETY.*

SESSION 1862-63.

DR. W. C. TOWNSEND, President.

DR. POPHAM *on Carbonate of Ammonia in the Urine.*

Dr. Popham exhibited a specimen of urine, passed by a patient in confluent small-pox, containing carbonate of ammonia in such abundance as to effervesce briskly upon the addition of the mineral acids. The patient was a woman of 45 years of age, almost idiotic. The urine presented nothing unusual until the seventh day from the appearance of the pustules, which had just commenced to sink in. On that day, perceiving the urine to be darker than ordinary, he tested it with nitric acid for albumen, and was surprised to find that the addition of a few drops was followed by a rapid effervescence. The specimen produced was brown, rather smoky-looking, turbid, with a strong ammoniacal odour; it was examined shortly after being voided. Dr. Popham observed that he tested the urine of the same patient daily, until convalescence was fully established, but without being able to detect a recurrence of the carbonate of ammonia, and was led to suppose it was critical, occurring just at the turn of the disease. Copious deposits of the phosphates also existed. In cases wherein carbonate of ammonia is present in the urine there is found an absence of urea. Some interesting observations upon this subject are found in *Graves' Clinical Lectures*. However, this author apparently held that the carbonate of ammonia was directly secreted by the kidney; whereas

* These Reports are supplied by Dr. T. W. Belcher, Secretary to the Society.

Golding Bird and others consider that it arises from decomposition of urea, the mucous matter acting by catalysis as a ferment. In this case the alkaline salt neutralizes the acid which retains the phosphates in solution, and which are thus thrown down.

Case of Pelvic Abscess Discharging through the Urethra. By DR. CUMMINS, V.P.

Mrs. B., aged 25, of lymphatic temperament, with hereditary predisposition to phthisis, but healthy and well-made, was confined, on the 4th of October, 1860, of her third child. The labour was severe and protracted, but terminated naturally, and convalescence progressed favourably until the morning of the 9th, when fever, with transient delirium, accompanied by pain and tenderness of left iliac region, made their appearance.

I immediately ordered cooling and aperient medicine, and had hot fomentations assiduously applied to the painful part; and by those means the local uneasiness was relieved, the pulse, which had been over 100, fell to 84, and convalescence seemed to be quite established in a few days.

October 22nd, 19th day.—Vomiting, unattended by thirst or epigastric tenderness, and most severe in the recumbent posture, commenced this morning, and continued throughout the day; bowels rather confined; pulse 84.

23rd, 20th day.—The vomiting continues, and rigors are much complained of.

26th, 23rd day.—Vomiting and rigors continue, and the urine is loaded with pus; dysuria and smarting on micturition cause much suffering. I cannot detect any tumour, either by external or internal examination.

30th, 27th day.—Smarting and rigors have ceased; vomiting continues, and there is much pus in the urine.

November 3rd, 31st day.—Sickness has ceased, and in all respects the patient seems convalescent.

Nov. 23rd, 51st day.—There has been some sickness in the mornings; rigors have occurred at irregular intervals, and about a week ago there was a slight appearance of pus from urethra. Since then, however, these symptoms have gradually subsided, and the patient seems now in perfect health, except some suffering from a horribly fetid discharge from nostrils, which commenced about the eighth month of pregnancy, and continued subsequent to parturition for several months, yielding eventually, in a rapid and decided manner, to large doses of arsenic.

This year, 1863, I attended her in an easy labour, from which she convalesced without a bad symptom.

The most remarkable point in this case is the extreme mildness of the symptoms of a disease usually so formidable as pelvic cellulitis, and the almost complete absence of the tumour which is generally characteristic

of this affection; next, the rapid and complete recovery, without the protracted suffering it generally entails; and, lastly, the unusual vent by which the abscess discharged itself from the system.

Dr. M'Clintock, in his late work on diseases of women, gives, as the result of seventy cases which occurred in his experience, that "thirty-seven ended in suppuration with discharge of pus;" and of these "twenty-four burst or were opened externally, viz., twenty in the iliac region, two above the pubis, one in the inguinal region, and one beside the anus; six were discharged per vaginam, five by the anus, and two burst into the bladder." He gives the details of the two last, one of which recovered so rapidly that the author makes it the subject of special remark.

Another unusual circumstance connected with this case is its early occurrence. Pelvic cellulitis is not generally met until the third or fourth week of the puerperal state, and then it can generally be traced to some imprudence, such as over-exertion or premature cohabitation; but the case I have related occurred at a time when puerperal fever was raging in Cork, and seemed to have been due rather to the epidemic influence than to any local cause. Another similar, but much more severe case, which came under my observation about the same time and after a protracted illness discharged through the rectum, commenced on the third or fourth day after the termination of labour; so that it seems that as marked a distinction may be made between epidemic and sporadic puerperal cellulitis as there is between those two forms of metritis.

A Case of Gonorrheal Rheumatism, successfully treated with the Tincture of Larch. By JOHN POPHAM, A.M., M.B., Physician to the Cork North Infirmary.

Sub-constable M'Kelvy was admitted into the North Infirmary August 20th, 1862, completely disabled, from rheumatism, affecting nearly every joint of his body. He stated that about six weeks before admission he contracted gonorrhea, for which he took copaiba; but while using it he was exposed to a severe wetting, and remained in his wet clothes for several hours, the consequence of which was that he got severe rigors, followed by pains of the joints. He remained without medical aid during four weeks, and at the period of his admission he could hardly stir hand or foot, and was, besides, greatly emaciated.

The chief joints engaged were the shoulders and elbows of the upper extremities, and the hips, knees and ankles of the lower. From the wasting of the muscular and adipose tissues, the joints seemed so much enlarged as to present an appearance of considerable deformity. The ankle joints were much swollen and painful, and the soles of the feet were covered with a thick scaly incrustation, extending round to the roots of the large toe nails. The calves of the legs were thin, flabby, and pendulous. He had a urethral discharge of a gleet character. From the

severity of the nocturnal pains and the loss of sleep his face had a haggard and greasy or waxy look. The tongue and throat were covered with a curdy-looking coat, but without any ulceration. His pulse varied from seventy to eighty; he had no cough or pain of the chest, but his voice was weak, and at times scarcely audible.

In consequence of the nocturnal pains he was ordered the iodide of potassium in decoction of bark, and an opiate at bed-time, accompanied with the cautious use of vapour baths, both general and local, with a diet of meat and porter. The further progress of the case was as follows:—

September 14th.—Symptoms as before. As he was greatly emaciated he was directed to try a dessert spoonful of cod-liver oil three times a day.

September 19th.—The bark was changed for sarsaparilla, as it caused nausea.

September 27th.—A troublesome diarrhea set in, which he attributed to the porter, which was indifferent. His medicines were stopped, and he was ordered chalk mixture with catechu and opium, and a full dose of Dover's powder at bed-time.

October 8th.—The diarrhea has ceased. Ordered a diet of milk and eggs, lime-water to be used with the milk; opiates at bed-time, and a grain of sulphate of quinine three times a day.

October 17.—The night pains were so agonizing that the iodide of potassium was again tried; and a chloroform liniment gave some relief.

October 24.—The cod liver oil was used for a few days, but was thrown off the stomach. On reviewing the case the progress seemed discouraging. The pains continued unabated; the scaly eruption on the feet was spreading; his general health was not improved; and the helpless and crippled state of the limbs persisted. It was plain that the course of treatment hitherto adopted was inefficacious; but what other could be substituted with advantage? On inquiry he admitted that, ten years before, he had a primary venereal affection, so that there appeared a possibility that gentle mercurialization might improve the scaly psoriasis. With this hope, half a drachm of mercurial ointment was rubbed in every second night, and washed off in the morning, so as to hold the remedy in check. Other medicines were discontinued, except a night dose of Dover's powder.

October 30th.—He has had a return of diarrhea during the last few days, for which he was ordered decoction of logwood, with tinctures of cinnamon and opium.

Nov. 10th.—The diarrhea has ceased; the mouth has become slightly affected. Ordered to omit the inunction. As the Dover's powder produced perspirations which weakened him, he was ordered a night draught of tincture of hyoscyamus. The quinine was resumed, and he was directed to take a couple of glasses of sound wine daily, with strong beef tea *ad libitum*.

Nov. 21st.—Not much improvement as yet from the mercurial course; his state is very critical; his tongue is red, with a curdy layer of an aphthous character; the throat is of an erysipelatous hue; tenderness on pressing epigastrium; nausea, and occasional vomiting; aphonia almost complete; he speaks in so low a whisper that a person must stoop down to hear him; pulse not increased in frequency; stripping prevented by the use of several air pillows; he lies on the back altogether, and the bones are projecting. Upon a close examination of the chest no evidence of tubercular deposit could be detected. At this stage of the case he was ordered the larch tincture—half a drachm three times a day, and fifteen minims of Battley's sedative every night.

December 12th.—He has taken the tincture of larch regularly since the preceding report, and has been getting gradually stronger. The larch does not seem to increase the quantity of urine, or to present any obvious effect. Besides the larch, he has continued the quinine as before, finding that it checked perspirations, and also the night draught of Battley. His diet is three pints of new milk per diem, eggs, and two or three glasses of port wine. As he still feels the pains of the joints, he was ordered a liniment of half an ounce of tincture of aconite in an ounce and a half of camphor liniment, which afforded him great relief.

1863, January 17th.—Since the last report he has improved considerably; he is able to be up for a few hours daily; he is gaining flesh; the painful and desponding expression of his countenance has given place to hope; the squamous eruption upon the feet, which has been on the decline since the beginning of December, has now disappeared; he has recovered his voice; all the symptoms of gastro-enteritic disturbance have left him, so that he has been able to resume the use of meat. It was resolved to test the effect of the medicines by omitting the quinine.

January 24.—He is of opinion that, since the omission of the quinine, the perspirations are more copious at night; in every other way he continues to improve.

February 2.—Since the last report he has resumed the quinine, and with the effect of stopping the perspirations; the night pains have ceased; he gets about by the aid of two sticks, but when long up the ankles swell; he is gaining flesh and strength rapidly.

February 26.—He left hospital this day, able to walk without support, and in every way recovered.

Remarks.—The preceding case afforded an instance of intractable arthritic affection, arising from protracted exposure to cold and wet, while the patient was suffering from chronic inflammation of the urethra. The arthritis is evidently not metastatic, as the urethral discharge did not abate; but it set in with much greater severity than occurs in ordinary arthritic attacks. For example:—The patient was much more worn down upon admission than he might reasonably be expected to have become in

so short a time; his muscles had lost their tension and rapidity of contraction, and, in all probability, their vividness of colour; the joints, especially the ankles, had become enlarged by deposits consisting of effusion into the areolar tissue, and thickening of the periosteum and perichondrium. A very peculiar scaly eruption formed upon the soles of the feet, but rarely met with in such cases, and confined to those parts, so that it may be truly termed "plantar psoriasis." It is worthy of notice that the heart was not engaged, and seldom is, in this form. The usual nocturnal exacerbations were also unusually severe. Another peculiarity of this affection is a sallow, tallowy hue of the countenance, with a worn and despairing expression; and there is reason to suppose that the tendency to gastro-enteritic complication is not casual.

With respect to the treatment:—The iodide of potassium, usually so effective a remedy in syphilitic pains, failed to afford relief; the various preparations of bark were equally powerless, though quinine succeeded in checking the perspirations. All forms of baths increased the debility; sarsaparilla and guaiacum were inoperative, and cod-liver oil disagreed. The claims of the mercurial treatment cannot be disposed of so evidently; it indisputably caused much present disturbance; but whether it co-operated in overcoming slowly the deep resistance of the disease is open to question.

There is nothing more certain than that the amelioration in the case commenced with the administration of the larch. He was reduced to extreme emaciation, and only prevented from stripping by the ingenious application of air cushions disposed all round his person. All the gastric symptoms, one by one, retired; the curdy apthous secretions, the raw redness of the pharynx, and the complete aphonia gradually yielded. The urethral discharge ceased, under injections, at an early period of the case, and did not seem to increase or lessen the arthritis while it lasted. As to the *modus agendi* of the larch—it did not act by diuresis, as some supposed; nor did it cause diarrhea, as I have noticed in some cases where it has been given. It probably exerts some specific effect upon the urinary system, the urine becoming natural, apparently in its sensible qualities, under its use. Of the unmanageable nature of this ailment every practitioner of experience will recollect examples.

Notes of a Case of Funis Presentation. By the PRESIDENT.

On the morning of the 20th of March, Mrs. —, a patient of mine, was suddenly seized with labour of her eighth child. After a few sharp pains the membranes burst; a very large quantity of liquor amnii was evacuated, and the nurse, finding the funis presenting, immediately sent for me. When I arrived I found Professor O'Connor in attendance, who was sent for in the emergency.

On examination, we found the funis in the vagina, the external parts

moist and dilatable. A careful examination enabled me to detect the head, very high up; it had not entered the brim of the pelvis. Pains had entirely disappeared. After a careful consideration, it was agreed that I should remain in attendance, and watch the case closely.

The patient being well-made—the “liquor amnii” being fully evacuated—the cord pulsating strongly, and her labours previously having terminated quickly, we did not think it advisable to interfere.

No change took place until four o'clock, when she complained that something was coming away. On examination, I found the funis had descended, and fully one yard was now lying in the bed—still pulsating strongly. On examination, I found the head had well entered the pelvis, evidently forced down by a painless contraction of the uterus and by abdominal pressure. I carefully arranged the funis, so as to prevent pressure, rolled it in a napkin, and enjoined the utmost quiet—not permitting her to move off the left side.

At half-past five o'clock Professor O'Connor again saw her with me. Seven and a-half hours had now elapsed since the membranes burst, during which time she had no pain—the head had well entered the pelvis—the funis was pulsating strongly—the “os” was fully dilated, the soft parts were quite flaccid. We agreed to give her one drachm of “liquor secalis cornuti” every fifteen minutes, and wait the result.

After the second dose labour-pains set in—the head rapidly advanced—the funis became very tense—pulsation was with difficulty felt, and in a very few minutes the head escaped the outlet. The child was apparently still-born.

A steady perseverance with the usual remedies was attended with success, and respiration at length fully established.—*March 25th, 1863.*

Case of Typhus Fever, with numerous Complications. By DR. BELCHER.

Dr. Belcher exhibited the intestines of a man named Hugh Curran, a sailor, aged twenty-seven, who was admitted to the Cork Fever Hospital, under his care, on December 31, 1862, and remarked :—

The patient stated that he was engaged to go from London to Queensland, as an able seaman, in the emigrant vessel *Golden City*, but that, on the passage from London to Cork, he was taken ill with headache and constant vomiting—not sea-sickness—in consequence of which he was put ashore at Queenstown, and sent to the Cork South Infirmay, whence, after fifteen days' treatment, he was admitted to the Fever Hospital. On January 1, 1863, he had subsultus and tympanitic abdomen. On the 3rd, the maculæ of typhus appeared; the tympanitis soon disappeared, and he seemed to progress favourably, under treatment by Dover's powder, turpentine fomentations, and a moderate allowance of wine and beef-tea. On the 8th January, he had slight bronchitis; on the 9th, his pulse (96) began to intermit; on the 10th, the tongue began to clean off,

while the subsultus, which had previously disappeared, returned. On the 12th, he got a sudden change for the worse—the pulse fell—the face assumed the “Hippocratic” appearance—he could not bear his abdomen to be touched, and passed very little water; he also discharged some green fluid from his stomach. On the introduction of the catheter only a half-pint of urine passed off. He had plenty of stupor, anodynes, and stimulants; but died early on the 13th January.

Dr. Joseph O’Kelly very kindly made the *post-mortem* examination. On opening the abdomen there was a discharge of fœtid gas, and a large quantity of purulent fluid escaped. All the intestines presented a congested appearance, particularly the small; but there was not any sign of internal ulceration. The spleen, nearly a pound in weight, was of a dark slate colour, and quite warm. The right kidney was congested; the left soft and flabby. The liver was congested; the left lobe hepatized, but no adhesions to the diaphragm. The stomach was thickened at its pyloric end, which was also the seat of stricture. The bladder was of normal size and appearance. What, then, was the proximate cause of death?—*January 14, 1863.*

Probable Agency of Toxemia in Inducing Mania and Delirium Tremens.
By DR. LUTHER, Clashmore.

In three cases of insanity that occurred in my practice, within the past two years, I was much struck by the fact that, before confirmed mania set in, and whilst the symptoms were only those of hysteria or hypochondriasis, very troublesome tympanitic distension of the stomach and aortic pulsations, likewise profuse and fetid sweats, existed, which reactive efforts to eliminate a poison from the system (as I regard them) were partially successful in controlling the disease; but when at length mania became fully established, the eructations and fetid perspirations ceased. All those patients dreaded insanity from the moment that they became subject to “foulsay,” which is the Irish appellation for this tympanitic distension of the stomach. It is also applied to brain fever, epilepsy, and, in fact, all nervous maladies.

Two of my patients followed identically the same course as regarded their symptoms. I considered them to be cases of hysteria, inasmuch as, though they acknowledged to having spectral illusions at night, they spoke quite rationally, and were very urgent that I should cure them of the aortic palpitations and globus hystericus, which constantly annoyed them. Finally, the elder patient, a woman of fifty, having completely lost her reason, was sent to an asylum. The second patient (her daughter), who had been in attendance on her, soon after began to complain of palpitations in her stomach, followed by eructations, sweats, tinnitus aurium, &c. Having seen her mother suffer from those symptoms, she begged of me to shave, leech, and blister her head, as she

said it (I suppose she meant congestion) would surely rise to her head. She was quite correct in her belief, for in the course of some months she became completely insane, when she became much more healthy. The third woman (whom grief and remorse rendered insane) expressed great alarm at the supervention of "foulsay" in her stomach. I thought her hypochondriacal, but she eventually became mad. In some other first attacks of insanity which came under my notice, heavy fetid sweats were very noticeable; and in one the patient said constantly, "Faugh! this vile smell," and requested me to give him an emetic that he might throw the load off his stomach.

It is true that madness or epilepsy was hereditary in the family of all those persons. Most blood diseases are also hereditary. Belladonna in large doses, produces hallucinations and temporary insanity; opium acts as an antidote to belladonna, and is often beneficial in mania, and in delirium tremens, in which disease the probability of toxemia is very great, as is evinced by the fact that the supervention of cholera morbus suspends the delirium, which at once returns should the "nimium diligentia medici" arrest the vomiting and purging—evidently efforts at elimination. Sydenham noticed, in describing the agues of 1661, "that a certain peculiar madness followed long agues, especially quartans; so that the malarious poison may apparently induce it." Hippocrates, as quoted by Esquirol, says "if hemorrhoids or varices supervene on mania the mania disappears." Now, this can only be intelligibly explained on the supposition of derivation and concentration of blood-poison in the swelled vein. The Turkish bath has, I believe, been successfully employed in the treatment of insanity, and it would probably be still more efficacious in hysteria, the symptoms of which are very much due to transient local congestions, originating in some morbid element in the blood.

Possibly the repeated use of emetics, leeches, and blisters to the liver, and alkaline carbonates, might be also beneficial.—*January 28, 1863.*

DR. LUTHER on *The Causative Agency of the Skin and Liver in the Induction of Phthisis and other Scrofulous Maladies.*

The blood is alkaline; the sudoriparous glands remove acids from it as fast as they are generated; the process being mainly one of simple transudation. Liebig states that the alkaninity of the blood aids, in a remarkable manner, the oxydation and combustion of grape sugar; it also aids the solution of oxides of iron. To it is due the extreme facility with which the blood moves through the minutest vessels, the delicate coats of which are impermeable, or very nearly so, to alkaline fluids. The free alkali acts as a resistance to many causes which, in its absence, would coagulate the albumen.—(See *Carpenter's Physiology*, p. 83.)

An acid state of the blood, therefore, prevents the oxydation of liver sugar by the lungs, hinders the absorption of iron into the blood, favours

congestion and the deposition of lymph and transudation from the blood-vessels. Now, the blood has been proved to be acid in diabetes, and diabetes usually terminates in phthisis. It is possible that the acidity of the blood, and the glycohemias which are constantly operating in diabetes, may occasionally occur in incipient phthisis. It has, indeed, been asserted by competent observers, that glycosuria always precedes phthisis; and phthisis prevails in countries subject to variation of temperature, where, from frequently obstructed perspirations, the blood must be often acid. Glycohemias frequently causes anthrax; also spontaneous mortification of the toes. Virchow, of Berlin, denies that tubercle is a product "*sui generis*." He implies that it is a normal tissue undergoing retrograde metamorphosis. If, as has been asserted, glycohemias always precedes phthisis, why do we not have the phenomena of diabetes, viz., excessive thirst, insatiable appetite, and diuresis? I answer, because the system is not saturated with the poison as it is in diabetes. How many glasses of alcohol will not a tippler drink before the false appetite and thirst for cold water, so well known to such persons, supervenes? Probably, if attention were directed to the subject, some diuresis might be noticed; but the lung may be equal to the task of elimination, and yet be materially injured by the presence, in its capillaries, of saccharated blood. A degree of uremia, not sufficient to attract notice, by the induction of dropsy or any of the more marked symptoms of kidney disease, may cause serious structural change in the arteries, heart disease, or aneurism.

Again, I am almost certain that congestion of the portal system and liver precedes the development of phthisis; and it is well known that fatty degeneration of the liver is discoverable after death in a vast majority of phthisical cases, and in few other diseases, unless Bright's disease.

This fatty degeneration of the liver is not found in cases of hydrothorax or hepatized lung, so that it cannot be due to its being overtasked in excretion of hydro-carbon.

The congestion of the liver, which I presume to exist, impedes the secretion of bile (the bowels, in the early stages of consumption, are usually constipated, unless where there is diarrhea, both results of different degrees of congestion); it hinders, or perverts, the manufacture of liver fat, possibly making a fat unfitted for being deposited in the cellular adipose tissue, or aiding in cytogenesis calorification, &c. Emaciation is a very early symptom in phthisis and other tubercular diseases, and yet, strange to say, the blood is found to be loaded with fat in tuberculosis. In healthy blood the fat exists only in a saponified state; but when the blood is acid it cannot be saponified. It is right, however, to state that this accumulation of fat in the blood was also noticed in Bright's disease, nephritis, diabetes, chronic diseases of the liver, dropsy,

jaundice, mammary abscess, and pneumonia. In the first three we may presume the blood to be acid: in the liver diseases congestion, of course, existed; in that of mammary abscess the fat, which should have been eliminated with the milk, was thrown back on the blood.

Now, as regards the "*lædentia*" and "*juvantia*," dandelion is very much estimated in the country in the treatment of consumption; and Astley Cooper treated all scrofulous diseases with different mercurials and alkalies—hydrargyrum cum cretâ, oxymuriate of mercury, carbonate of soda, and liquor potassæ. Again, Coulson, in his work on the hip joint, says:—"The organ most frequently found deranged is the liver; and, at the infirmary, leeches and other local means are applied to this organ oftener than to the affected joint." Water on the brain is believed to be a scrofulous affection; in it the action of the liver is undoubtedly perverted, and the appetite is frequently abnormal, like that of a diabetic patient. Now, calomel and diuretics are more beneficial in this malady than any other remedies, restoring the tone of the liver, and, perhaps, assisting the kidneys to eliminate sugar. I doubt extremely if the mercury acts in this disease as an antiphlogistic; at all events, salivation is seldom produced, and not necessary. But it may be said that salivation is very injurious in scrofula. I grant that; but salivation produces excessive congestion of the portal system (the very object we desire to avoid), as is evinced by the colics and dysentery which form a distressing symptom of it.

The analogy existing between typhoid fever and consumption, and the prejudice which exists on the continent that the latter disease is contagious, is worthy of notice, but is, however, foreign to this subject.

I would strongly urge the use of the Turkish bath in phthisis and other tubercular diseases, with the double object of exciting the functions of the skin and relieving the congestion of the abdominal viscera.—*February 11th, 1863.*

Case of Spontaneous Varicose Aneurism, with Pathological Specimen. By EUGENE FINN, A.B., M.B., T.C.D., Lic. K. & Q. College of Physicians, Ireland; Senior Physician to the Cork North Charitable Infirmary.

The pathological specimen which I mean to bring under your notice this evening relates to a case of spontaneous varicose aneurism which occurred in the practice of the North Infirmary, and in which a communication, *recognised during life*, was found to have existed between the *ascending aorta* and *descending cava*. This form of disease rarely presents itself in practice; and as this has been the first instance of the kind which occurred in this city, or, at least, which is supposed to have occurred, this circumstance invested it with the interest that ever attaches to a pathological curiosity, as this lesion has been, not inaptly, designated. Auscultation, to which medical science is beholden for

revealing the physical signs of arterial disease, has failed, in some measure, to offer a solution of the difficulties which surround the diagnosis of this twofold lesion of the vascular system; but this failure is, perhaps, less to be referred to the difficulties that exist than to the comparative infrequency of the disease in question. Did this lesion present itself in the same degree of frequency as uncomplicated arterial disease, it would have been, probably, quite as amenable to auscultation as the latter. In Dr. Mayne's communication on "Varicose Aneurism," published Vol. XVI. (New Series) of *Dublin Medical Journal*, will be found a *resumé* of almost all that was known on the subject down to the period at which he wrote. In that paper he referred to those of his contemporaries of the Dublin school, and to others, who have laboured in this field of inquiry. The former include the names of Mr. Adams, Dr. Law, Dr. Robert Smith, and Dr. M'Dowel, who have severally enriched medical literature by their contributions on this subject.

The latest case of varicose aneurism which I find recorded is a very interesting one, which appeared in *The Medico-Chirurgical Transactions* for 1861.^a In this case the nature of the lesion was recognised during life. The case which I am about to describe presents many points of resemblance to the cases of Drs. Mayne and Law,^b and to some of the cases recorded by Dr. Thurnam in his valuable Memoir, published in *The Medico-Chirurgical Transactions*, 1840; and this resemblance applies not merely to the physical and general signs, but also to the co-existent pathological lesions.

Samuel Bates, aged 53, a teacher of music, was admitted into the North Infirmary on the 28th September, 1862, suffering from a paroxysm of dyspnea, which appeared to be induced by the fatigue incident to his removal to hospital. For some time after his arrival in the ward his life appeared to be in the most imminent danger, and some hours elapsed before his respiration ceased to be paroxysmal. His general health had been very good. In early life he suffered from an attack of acute rheumatism; and from that period to July last, enjoyed uninterrupted health. In July he was under the care of Dr. Armstrong, of this city, for an attack of œdema of the face, neck, and right arm; and the symptoms just noticed abated in a few days to such an extent as to admit of his resuming, for a very short time, his professional engagements. His habits were reported to have been intemperate; and he had suffered for years from the many privations incident to poverty. His stature was tall; but the figure was much emaciated, and rather bent. The face was swollen and congested; the nose exemplifying the latter condition in its highest degree of intensity. The eyelids were also much congested;

^a Case by Dr. Wade of Birmingham.

^b Dublin Journal, vol. xxi., p. 443.

and their margins presented the appearance of red zones encircling the eyes. There existed some retro-conjunctival effusion; and the eyes, in consequence, were unduly prominent—"starting, as it were, from their spheres" No change was observed in the condition of the pupila. The expression of the eyes was of that mixed character in which surprise and alarm are at once manifested; and the general physiognomy was eminently suggestive of the "abnormal activity" of the respiratory system. The œdema also involved the neck, right arm, and forearm, and the two superior thirds of right chest, anteriorly. The neck was almost on a level with the lower jaw—the œdema having assumed the appearance of enlarged glands near the symphysis of the chin, and immediately beneath the right ear. The outline of the right clavicle was completely masked by the turgid condition of the integuments. The swollen parts, as in Dr. Mayne's case, offered more resistance to the pressure of the stethoscope and of the fingers, than ordinary anasarca. There existed considerable venous turgescence of neck and right infra-clavicular region. In the latter it was most intense near the border of the axilla. Commencing at a point about an inch to the left of right nipple, were observed small clusters of veins, extending thence, in an oblique direction, to the left hypochondrium; in which latter locality several veins were elevated above the surface.

September 29th.—Slept in the horizontal position; respiration considerably relieved; tongue coated; appetite moderate; pulse 94; rather weaker in right than in left wrist.

Physical Examination.—On inspecting the chest the right side appeared to measure more than the left; but on applying the measure, there was found to be no difference. The antero-posterior diameter of right side was increased; whilst the lateral was diminished. There existed, also, at right side an absence of resonance and respiration, anteriorly and posteriorly, except towards the base. In these respects the condition of left side was normal. A *loud, booming, continuous, single sound* was heard over the entire infra-clavicular region, at right side, presenting its maximum intensity at a point about two and a half inches below the centre of clavicle. Between this point and the cardiac region, and along the arch of the aorta, the loud, double sound of aneurism was audible—a very loud murmur replaced the first sound of the heart.

From this period to the 30th October the case proceeded more favourably than could have been anticipated. He occasionally complained of some difficulty of breathing during the night; and also of a sense of constriction at the lower part of neck. His appetite improved, and he suffered very little from cough. In general he spent the greater part of the day in walking about the wards of the hospital. At the date just referred to the following observations were recorded:—"Face cyanotic to a greater extent than previously; and increased prominence of eye-balls."

On this occasion he complained a good deal of the constriction at lower part of neck, which, however did not interfere with deglutition. During the month of November he suffered, to a greater extent than previously, from attacks of dyspnea at night; and at this time, too, his rest was frequently disturbed at night by urticaria, which generally subsided during the day.

Throughout the month of December the livor of the countenance, &c., &c., became perceptibly augmented; and he suffered more frequently from cough and difficulty of breathing, which sometimes amounted to orthopnea. At the close of this month he left the hospital for some days; and returned with all the symptoms greatly aggravated. In the early period of the month of January unequivocal symptoms of intra-thoracic effusion manifested themselves. His condition became daily worse; and he was obliged to occupy the semi-erect position—any change in this respect inducing the most aggravated dyspnea. He died on the 13th January, 1863.

Autopsy took place about seven hours after death. There were present Professors O'Connor and O'Leary; Drs. Golding, Hobart, jun., and O'Sullivan (House Surgeon), and several medical students. Body much emaciated; *extreme pallor* of the countenance, which presented a marked contrast to the condition which existed during the latter period of his life; congestion of neck and right arm, similar to that already described. The forearm was more swollen than previously, especially towards the back of the hand, which had become quite transparent from the infiltration. When the integuments of the chest were divided a very large quantity of blood escaped from the superficial veins at right side. The right lung was united anteriorly by the strongest adhesions to the chest; on separating which, several pints of serum escaped. The lung was much diminished in volume, whilst its consistence was increased—a pathological condition which was anticipated, and which satisfactorily accounted for the alteration in the form of the chest, above noticed.

The left lung was slightly adherent to the thoracic walls; but in other respects healthy, with the exception of some hypostatic congestion. The pericardium contained a small quantity of serum. The heart was greatly hypertrophied, and weighed probably seventeen ounces. The mitral valves were much thickened and congested, and presented a moderate degree of dilatation. The tricuspid valves were similarly affected; both ventricles were hypertrophied—the right being proportionately hypertrophied to a greater extent than the left ventricle. The left auricle was free from disease; but the right auricle appeared to participate in the general hypertrophy. The aorta was moderately dilated at the commencement of its course; but at about two and a half inches from its origin it expanded into an aneurism of vast proportions, limited by the origin of the innominate. The sac contained a large quantity of red

coagulum. On removing the coagulum the sac was observed to extend upwards and outwards to the clavicle. The interior of the sac was rough and congested; and the portion of it contiguous to the innominata was reflected on it in such a manner that the coats of the two vessels were mutually adherent, and formed a septum common to both. The margin of this septum projected into the interior of the aorta, and appeared at once to favour the regurgitation of the contents of the sac towards the heart, and to repel the blood-wave issuing from the heart. The aorta was dilated to a moderate extent along the arch, and contained coagulum similar to that already described. At about the centre of the sac, and towards the right side, a small piece of coagulum was observed to protrude from an opening which, at first, had almost escaped notice; but which, on removing the plug, was found to be the medium of communication between the aneurism and superior cava. The orifice was of about the size of a fourpenny piece, circular in its outline; and its margins were smooth and polished. The vein and artery at this point, and at a considerable distance on either side, were united by adhesive inflammation. The vein did not, in other respects, present any deviation from the normal state. The liver was also the seat of organic disease—its colour resembling that of currant jelly.

In connexion with the autopsy a question suggests itself as to the probable duration of life subsequent to the establishment of the communication between the artery and vein? The aneurism had been, obviously, in existence for years; and its *gradual* development involved, without any appreciable disturbance of health, structural change in the contiguous lung to such an extent as almost wholly to disqualify it for respiratory purposes. Dr. Armstrong states that he suspected aneurism at the date of his first attendance, the 5th July; the other symptoms being “severe erysipelas of face and neck, which, towards the close, was complicated with extensive and obstinate anasarca.” Dr. Armstrong does not state that these symptoms supervened suddenly (as stated by the patient), having been ushered in, and accompanied by great dyspnea. The history of the case, it appears to me, warrants the presumption that the *communication* between the vessels existed since the 5th of July at least; the symptoms which this patient presented at a later period being, in many respects, identical with those described by Dr. Armstrong. This view is, also, borne out by the autopsy which describes the opening as circular, whilst its margins were smooth and polished—these conditions being more or less incompatible with a recent breach of continuity. In Thurnam’s experience of this disease the duration of life varied from four minutes to ten months. In this case the individual would appear to have survived the accident for six months and eight days. The existence of cardiac hypertrophy in the absence of valvular disease illustrates the remedial or physiological activity of the heart in connexion with *arterial disease*.

In conclusion, I beg leave to recapitulate the signs upon which I relied in arriving at the diagnosis, placing them in the order of sequence in which they first claimed my attention :—

1. The physiognomy was very characteristic, and its semeiotic value was much enhanced by the strong “family likeness” which this case presented to the cases of Drs. Mayne and Law, and to several of those recorded by Thurnam.

2. The sudden invasion of lividity and œdema of face, irrespectively of any previous history of bronchitis or asthma, excluded the respiratory organs from any direct agency in the production of this result.

3. The limitation, with the exception noticed, of turgescence to the tributaries of the superior cava, materially contributed to elucidate the nature of the case, by narrowing the circle which included the abnormality in question.

4. The œdema presented the peculiarity noticed by Mayne and others, in retaining some degree of elasticity.

5. The difference in strength between the radial arteries diminished in proportion as the œdema of right arm declined ; and was less remarkable towards the close of life, though the œdema had returned.

6. The coexistence of a single murmur with the normal double sound of aneurism at either side, in proximity, created some difficulty in localizing the aneurism, and involved a question as to the presence of a second aneurism. The difficulty in this respect was, in some measure, removed, by canvassing, *par la voie d'exclusion*, the differential signs of the forms of aneurism which may exist in the locality ; and the coincidence of the lividity of countenance, &c., with the single murmur in question, suggested that the solution of the difficulty was to be found in a cause common to both—viz., the communication between the aneurism and vein.

The heart was not separated from the aorta for the purpose of weighing, as the preparation was presented to Professor Corbett of Queen's College, to be preserved in the Pathological Museum.

On Placental Polypi and Placental Remains in the Cavity of the Uterus.
By Dr. STADFELDT, of Copenhagen. Translated from the *Hospitals-Tidende* for the 25th December, 1861, by WILLIAM DANIEL MOORE, M.D., T.C.D., M.R.I.A., Honorary Member of the Royal Medical Society of Copenhagen, &c., &c.

THE division made by Kiwisch of uterine polypi into mucous, fibrous, and fibrinous, has been considered by C. Braun to be insufficient in a

practical point of view. The latter writer has, in a very recent essay,* endeavoured to remedy the insufficiency alluded to by describing a fourth species—placental polypi. There is but little difference of opinion among pathologists respecting the histology and pathogeny of mucous and fibrous polypi; as to the fibrinous, on the contrary, there is less of unity. Thus, while Kiwisch believes these to be metamorphosed and adherent coagula of retained menstrual blood in women who have not borne children, Scanzoni (*Lehrbuch der Krankheiten der weiblichen Sexualorganen*, 1857, p. 228) has thrown doubt upon this pathogenesis, at least as a general rule, and has put forward the view that they are the remains and consequences of an abortion, where the ovum has at an early period come away unobserved. Kiwisch had himself called attention to the fact that these fibrinous polypi might be confounded with an abortion, if the portions of the ovum, infiltrated with blood, pressed like a wedge into the os uteri; but he believed that they might be distinguished by the circumstance that the body of the uterus is the expanded part in abortion, while the fibrinous polypi affect by preference a dilatation of the cervical canal; the quality of the polypus is, moreover, capable of exhibiting the nature of the affection, inasmuch as it presents the character of a metamorphosed coagulum without the remains of an ovum. Scanzoni's opposition was based principally upon clinical observation, and was, on the whole, successful; the anatomico-pathological proof in support of his theory was first adduced, quite recently, by Rokitsansky. In the *Zeitschrift d. k. k. Ges. d. Aerzte in Wien*, 1860, the latter writer communicated two cases of abortion with dissection, where was discovered the foundation of a fibrinous formation of polypus, the peculiarity of which consists in this, that the cervical portion of the uterus was dilated by the depressed ovum, and so was prepared for the formation of Kiwisch's fibrinous polypus. When in such a case the embryo is extruded after the rupture of the membranes, the remains of the ovum left behind form, together with the extravasated blood, the foundation of a fibrinous polypus; and the blood will so much the more easily collect and coagulate in the passively dilated cervix, as the already contracted upper part of the uterus is not in a position to act on the collected sanguineous mass.

Braun also entertains the view that the fibrinous polypi are remains and products of pregnancy; he thinks, moreover, that they are not only consequences of abortions (abortive ova, mola carnosae, retention of the placenta after a non-viable fetus), but that also the remains of the placenta of a fetus born at the full time may give rise to the formation of polypoid bodies in the uterus. He calls these *placental polypi*, and believes that future and more accurate histological investigation of this subject will

* See Med. Jahrbüch. Zeitschrift. d. k. k. Gesellschaft der Aerzte in Wien. 1861. II. H., p. 199.

refer the majority of so-called fibrinous to the class of placental polypi. He rests his views on five cases, in which in a shorter or longer time after delivery there was violent hemorrhage from the uterus. On examination, such polypi were found; they were extracted four times with the finger; once the polypus separated spontaneously, and on investigation they distinctly exhibited the composition of the placental tissue. He finally describes, from the Vienna Anatomico-Pathological Museum, two preparations, in which are found polypoid tumours in a puerperal uterus, and these tumours consist of distinctly recognizable placental remains. As instructively bearing upon this point I shall quote the following from the records of the dissecting-room in Frederik's Hospital.

Anemia Post Partum ; Degeneratio Adiposa Cordis ; Placental Polypus.—J. L., aged 30, married was admitted, on the 22nd December, 1860, into the A medical division of the hospital. From the very imperfect statements of the patient it appeared that of late years she had suffered much both in body and mind; four weeks before her admission she had given birth to a living, fully-developed child. Her labour, though natural, was very difficult. The after-birth had to be removed by the midwife after the lapse of two or three hours, and a quantity of blood is said to have followed. Her convalescence at first proceeded normally; but it was stated that, 13 days after delivery, she again had some hemorrhage from the vagina, though this was but slight and of short duration. It was not her first confinement. With the exception of increasing languor, nothing seems to have gone wrong for another week. When she was admitted she was in a very collapsed condition, and could not even give any reliable information about her state. Her skin was of a yellowish grey colour, cachectic; her pulse was very small; the temperature of the body was low; there was great emaciation, torpor of the cerebral functions, want of sleep, and occasional delirium. Notwithstanding the administration of stimulants, she died on the 23rd of December. On *dissection* the heart was found considerably dilated, in a state of extreme fatty degeneration throughout the whole muscular substance, while externally the fatty layer was more than usually thick, especially in the lowest inch of the right margin of the organ, where the muscular structure was so highly compressed that the fatty layer pushed up almost to the endocardium. The body presented nothing else remarkable, except considerable anemia in all the organs. The *uterus* was three inches in breadth between the orifices of the Fallopian tubes; it was three and a-half inches in length. The os uteri formed a transverse fissure, into which the point of the index finger could be introduced. The substance of the uterus was firm, normal, and white. Its cavity was enlarged, filled with an ovum-like body of the size of a large walnut, which, from its porous, fibrous consistence and reddish grey colour, was evidently composed of placental tissue. When the cavity of the uterus was opened, the body in question

was found to be divided into three lobes pressed against one another; they were mutually coherent, and were attached to the anterior surface of the uterus, a little to the right of the middle line, by a stem formed of fibrous cords of about the circumference of a three-skilling piece. The body was not otherwise attached. No puriform masses were anywhere found; and, with the exception of a coating of thick greyish mucus, the inner surface of the uterus presented no abnormality. In the right ovary there was the trace of an old corpus luteum.

It is notoriously no new discovery that parts of the placenta may remain in the uterus after the discharge or removal of the after-birth. This has been already long known; and both older and more modern writers have recorded the results of dissection in such cases. Thus, Simpson found adherent placental remains in puerperal patients who died in from 10 to 30 days after delivery; and, from a clinical point of view, this subject has been treated of by Hüter in a short essay—"Die Mutterkuchenreste" (*Monatsschrift für Geburtskunde*, Band. ix., 1857, p. 96). It appears to me, however, that Braun has the merit of maintaining the great importance of these placental remains in the pathogenesis of uterine polypi. He has combined the experience of the obstetrician and of the pathologist, and has shown that placental débris may remain in the uterus, assume the external form of polypi, as we see in the above-quoted case from Frederik's Hospital, and may, even years after delivery, give rise to the whole group of symptoms attributed by pathologists to polypi. There is, in fact, no doubt that these placental remains are occasionally retained in the cavity of the uterus, and at length come under the care of the surgeon, without their pathogenesis being known to him. Thus, if we read in the French pathologies the chapter—"Des Granulations ou Fongosités Intra-uterines"—we shall easily discover that a great part of the cases there mentioned must be referred to the class of placental polypi with violent and persistent hemorrhages; and, while their cause has been sought in the most widely differing morbid conditions, their proper origin has been overlooked. Nonat (*Traité prat. des mal. de l'uterus, &c.*, 1860, p. 195) enumerates, among their generally received characters, that they are found only in women who have had children; that their frequency increases with the number of births; that they are almost always situated in the body of the uterus, on its posterior surface; and, lastly, he mentions, under the description of them, that they resemble the "detritus of the placenta;" in short, he has unconsciously given a description of, and arranged the characters of these fungosities, by which they are recognized as placental remains, at least in many instances.

It is remarkable that the subject of placental remains in the cavity of the uterus has as yet been very sparingly treated of in most manuals of midwifery. This is the more singular as these remains play an important part in metrorrhagia, both in the fifth period of delivery, and later in

life. In my dissections of puerperal patients I have always directed my attention to the seat of the placenta, and its condition. I have in this investigation often found these remains; and I should hope that the results of my experience in this respect will not be unacceptable, and that they may, perhaps, contribute to supply a want, as they touch chiefly upon the anatomico-pathological part of the question, which has been still more neglected than the clinical. I shall compare my results with the contents of A. Hegar's work, entitled, *Die Pathologie und Therapie der Placentarretention*. Berlin, 1862.

The term *placental remains* is applied to all the parts possessing the placental structure which remain in the cavity of the uterus after the discharge or removal of the secundines. Of course I do not speak of the small portions of the after-birth which always remain in the seat of the placenta, and which are subsequently expelled, little by little, with the lochia. I now allude only to such remains as possess a size varying from that of a walnut to that of a goose-egg, or larger; which contain one or more cotyledons of the placenta, either in their integrity or in their greatest part; and which are separated with greater or less difficulty from their places of attachment. Such larger remains are, as I have said, not very unfrequently met with. During the past two years I have, in Frederik's Hospital, and in the Royal Lying-in Institution, performed 65 dissections of puerperal women; and, in addition, reports from five similar dissections, at which I have been present, are before me. In these 70 bodies large remains of placenta were seven times found—that is, in 10 per cent. This, probably, does not exhibit the true frequency of their occurrence, as these remains probably cause and coincide with an increased amount of illness and death among puerperal women; but still it shows that such remains are met with much more frequently than has generally been supposed, and than is stated in the manuals of midwifery. In these seven cases the after-birth was five times expelled naturally in the course of from a quarter to half an hour after the birth of the child. In the other two cases, on the contrary, the placenta was removed by the introduction of the hand into the cavity of the uterus in two or three hours after the birth—in one instance by a physician, in the other by a midwife. In these two cases there was considerable hemorrhage from the uterus in the fifth period; the same occurred in one of the cases where the after-birth had been naturally expelled, and where three-quarters of a pound of blood was collected; while, in addition, blood-coagula were, in the course of the day, expelled from the uterus with labour-like pains.

The *causes* of retention of placental remains may be sought partly in the condition of the placenta itself, partly in the uterus, and, finally, in external circumstances. Thus, the *placenta* may be of a too loose consistence, so that the lobes are easily separated from one another; it may,

moreover, be so thin and flat that the pains are not able to act upon it, cannot separate it and expel it, or parts of it. This is often the case with the small accessory placentas (*placenta succenturiata*), and in division of the placenta into two or three parts (*pl. duplex-triplex*). The most important of the causes which are to be sought in the placenta itself are its adhesion to the wall of the uterus—which often coexists with sanguineous effusions or depositions of fibrin, and exudation in its tissue. These adhesions may be very strong; so that the placenta, throughout greater or lesser portions, can be separated only by taking away with it parts of the uterine substance. They very rarely occupy a whole placenta, but are so much the more frequent over smaller portions, and acquire the greatest interest for us, as these adhesions must favour the development of polypous placental remains, especially where they assume the band or string-like form, as in the observation above communicated. Besides such a pathological source of placental adhesion, we may also find physiological reasons for an abnormally solid attachment in birth between the placenta and the uterus—namely, in abortion, and in the birth of a not yet viable fetus. The earlier in pregnancy we examine the condition between the placenta and the uterus the firmer it in general is, and the less the decidua is in a condition to separate. The attachments of the placenta, therefore, loosen with incomparably greater difficulty in abortion than in the birth of a full-grown child; and precisely for this reason we often meet with hemorrhage and retention of the after-birth in premature deliveries.

In four of my seven cases with placental remains on the wall of the uterus there was a firm adhesion; while the connexion in the three other cases was more or less loose. Only in one of these four cases was the fetus not at the full time—it was born five weeks too soon. In the three cases where the connexion was looser all the children were at the full time.

The cause of the retention may, moreover, lie in the *action of the uterus*; Thus, the pains may be so strong, and may follow so quickly on each other, that the after-birth is expelled too rapidly, or atony may supervene upon this violent action; and, in either case, the circulation in the placenta is not gradually diminished, the parts are not prepared for separation, and some cotyledons remain behind upon the wall of the uterus. The atony may also be primarily present both before and during delivery; and, as a result of the same atony, larger or smaller portions of the placenta may be retained. Lastly, an unequal contraction of the uterus, or a faulty formation of that organ, may be enumerated as a cause of retention.

As the third causal element are mentioned all the influences which give rise to an untimely or incomplete separation of the placenta. They are partly internal, partly external; and among these must be reckoned every artificial aid which has the removal of the after-birth for its object.

If we now compare the seven cases, they exhibit the following facts:—Five of the women were, according to the hospital records, *primiparæ*; two were *multiparæ*. This does not agree with the general experience that a partial retention of the placenta occurs more frequently in *multiparæ* than in *primiparæ*; yet we must not overlook the fact that both the *multiparæ* belonged to the cases where the adhesion of the placental remains was solid; just as I also must admit that this enumeration is not conclusive, inasmuch as I cannot compare it with the proportion between parturient *primiparæ* and *multiparæ*. There is no doubt that many women have a *predisposition* to this anomaly. Thus, Hüter has found adhesions, abnormal formation, and inflammatory process in the placenta, in four consecutive deliveries in the same woman; and Hegar saw different cases of this kind; just as he also has known women in whom abortions and adhesion of the fully-developed placenta alternated in many consecutive births. This indicates the existence of a morbid predisposition in the uteri of some women; and this element is not unimportant, as we may, perhaps, in it find the germ of the morbid cases, which are in general referred to adhesion and retention of the parts of the placenta. An observation will illustrate this:—

A. N., No. 96, an unmarried *primipara*, aged 31, was admitted into the Lying-in Institution on the 17th February, 1860. After 52 hours' labour, she was delivered, in the afternoon of the 19th February, of a dead full-grown boy. The funis was round the neck of the child. The placenta came away naturally, half an hour later. Even during the labour there were signs of metritis—feeble, distressing pains, with considerable tenderness of the abdomen, and of the vaginal portion of the uterus. The pulse was rapid. Twelve leeches and an emollient cataplasm were therefore applied during the labour. The symptoms increased, and became very threatening. On the 20th February she was admitted into the A medical division of Frederik's Hospital, and she died on the 22nd. On dissection, peritonitis, metrophlebitis, and endometritis were found. The uterus was large, less contracted than it normally should have been, especially in the left superior angle. Its inner surface was covered with an abundant, partly puriform, partly chocolate-coloured mucous layer, capable of being scraped off. The tissue of the cervix was highly infiltrated with blood. In the left superior angle of the uterus a portion of the placenta, of the size of an egg, remained attached to the inner surface of the organ in the seat of the placenta.

In this case the probability cannot be denied that the same process in the uterus, which was the cause of the adhesion of the placenta, gave rise to the unusually early and violent occurrence of the puerperal symptoms.

Before proceeding to describe the seat of the placental remains, it is necessary to dwell, for some moments, upon the locality usually occupied

by the placenta. I have accurately noted the seat of the placenta in 35 dissections, to which the seven cases already mentioned also belong. It was found 21 times upon the posterior surface, eight times upon the anterior surface, and six times in the fundus and angles of the uterus. The investigation of this question has always been very defective; and, although it is not unimportant, we find but very sparing information respecting it in literature. In general we find in authors only the brief statement that the seat of the placenta is met with most frequently on the posterior surface, somewhat to the right side—(Scanzoni-Hohl). This does not at all agree with my notes; as in the 21 cases where it was found on the posterior surface, it was 14 times in the middle line, three times to the right, and four times to the left side; and, on the whole, the right-sided insertion was by no means predominant, for in 17 cases the placenta lay in the middle line of the organ; nine times it was to the right, and as often to the left side. It is indeed true that I have not measured its seat with compasses, but with the eye; and I will therefore not deny the possibility that it may, perhaps, somewhat more frequently, have extended a little farther to the right than to the left side of the middle line; but I am still certain that the loose statement of a so much more frequent right-sided insertion of the placenta is, in its generality, incorrect. One of the few authors who supply statistical data in this direction, namely, Velpeau—(*L'art des accouchem.* 2nd Edition, T. I, p. 298)—has arrived at results which still less agree with my notes. Thus, in 34 dissections, he found the centre of the placenta 20 times corresponding to the orifices of the Fallopian tubes, three times on the anterior surface, twice on the posterior surface, three times beneath one of the Fallopian tubes, and six times in the fundus of the uterus. With the exception of the fact that the insertion occurs six times in the fundus in both series of dissections, there is the greatest possible disagreement between them. For my part I do not believe that the middle of the placenta is so frequently to be found over the orifices of the Fallopian tubes; but I will defer my judgment until a larger amount of material has been collected. These discrepancies may, however, stimulate pathological anatomists to a more accurate investigation of the subject. If we now turn to the seat of the placental remains, the dissections have afforded very remarkable information in this respect. They were found twice on the posterior surface, three times on the anterior surface, and twice in the superior angles of the uterus. This, therefore, exhibits a relatively much more frequent location on the anterior ($\frac{3}{8}$) than on the posterior ($\frac{2}{8}$) surface, a result at which other investigators have also arrived, at least so far as the cases are concerned, where the adhesion was solid. Thus d'Outrepoint found, among 11 tendinous adhesions, the placenta eight times adherent to the anterior surface; and an explanation of this has been sought in the more ready accessibility of the anterior surface to traumatic influences

with subsequent inflammation. In my cases the adhesion was twice solid upon the anterior surface, while it was only once upon the posterior. These remains appear also to have a comparatively frequent location in the superior angles of the uterus. In five cases—namely, where the placenta had been attached in the angles in question (in two to the right and in three to the left) considerable placental remains were twice found there; this, therefore, exhibits a frequency of $\frac{2}{5}$. When they are seated in these parts they give a peculiarly oblique appearance to the uterus, which we find mentioned in the case last described; yet we cannot always infer, from such an obliquity of the organ, that we shall find placental remains in the projecting angle, as the obliquity seems generally to exist where the placenta is situated in the angles of the uterus. In the cases with the insertion of the placenta in this place I found the defective contraction in the angle just mentioned, and the consequent obliquity four times; and among them there were two cases where no placental remains were found; but where the veins were much distended, and were filled with puriform masses and decomposing thrombi, so that the location of the placenta in this place seems in a high degree to promote a deficient thrombosis.

Having treated of the pathological anatomy of placental remains, we have now briefly to speak of their diagnosis, and of the course of the symptoms.

It is certainly very doubtful whether we are in a position to diagnose, during pregnancy, and even during delivery, the total or partial adhesion of the placenta. The symptoms which indicate hyperemia and inflammation of the uterus may indeed excite our suspicion; but nothing can be positively decided in this respect. Simpson and others have mentioned a bearing down circumscribed pain in the uterus, or persistent pain in the lumbar region and uterus as a good sign in an adhesive placentitis; but this is of little value, as at least from such pains alone we cannot diagnose an adhesive inflammation. We may confine ourselves to saying, that threatening abortion, with hemorrhage, not unfrequently gives rise to adhesion of the placenta in delivery at full time, and that, as has already been remarked, inflammatory symptoms in the uterus during pregnancy are precursory to a firm adhesion of the uterus.

In the stage of the expulsion of the placenta, and later, we have, on the contrary, tolerably characteristic signs of retention of placental remains. In the first place the examination of the expelled placenta may give us valuable information, and ought never to be omitted. A torn appearance, or the want of one or more cotyledons, may indicate retention of placental remains. This investigation may, nevertheless, sometimes be useless; as the placenta appears whole and uninjured when the retained mass is a cotyledon separated from the edge—a placenta succenturiata, or a placenta-like formation on the chorion itself, as Hüter has observed. The direct

recognition of placental remains in the cavity of the uterus, by the exploring finger, affords the most certain diagnosis. In one of my cases, from Frederik's Hospital, Councillor-of-State Dahlerup had felt placental remains in the uterus, and, on inquiry at the Lying-in Institution, we ascertained that, in delivery, a portion of the placenta was wanting, and that the patient had had a considerable hemorrhage in the fifth period. She suffered much from nausea and vomiting in the hospital, had a highly-fetid, excoriating, and very sanguineous lochial discharge; and, on dissection, there was found on the anterior surface, directly over the internal orifice, an adherent, normal-looking placental remnant, with a base equal in extent to a two-marks' piece. There was considerable fresh exudation in the seat of the placenta. We must, however, beware of mistaking coagula of blood, or fraying and folding of the mucous membrane of the uterus, for remains—a possible occurrence, as may be seen from the following case:—

Puerperal patient No. 7090, a secundipara, aged 20, was admitted into the A medical division of Frederik's Hospital, on the 28th December, 1859, six days after delivery. On vaginal exploration, the orifice of the uterus was found to be of the size of a mark, and within it was felt a soft, spongy body, *resembling placental tissue*. The patient died on the 30th December; and, on dissection, the seat of the placenta was found above, and with only small particles of the placental mass, while the mucous membrane—or the inner layer in the uterus—down at the internal orifice, was frayed and lying in folds, projecting into the orifice. In most cases such a mistake will, however, not be made.

But very often we cannot establish the diagnosis by direct examination in this mode; we are then confined to other symptoms, which do not, indeed, with perfect certainty indicate a partial retention of the placenta; but which still make this extremely probable. To these belong: that the uterus remains abnormally large; that the cervix uteri and the vaginal portion manifest a deficient involution; moreover, that pains, like those of labour, exist later than usual; lastly, we may mention persistent vomiting, hemorrhages from the uterus, and a very fetid, abundant, highly blood-coloured lymph-like lochial discharge. All these symptoms may occur under other circumstances; but together, they have an important bearing on the diagnosis; and the more so the more numerous they coëxist. I shall dwell especially upon the hemorrhages, and the changes in the lochial discharge.

Metrorrhagia may occur shortly after delivery; and, therefore, in the proper period of the after-birth. This we saw in three of the cases mentioned where the hemorrhage had been very violent in the fifth period. In these three cases the placenta was situated once in the right superior angle, and twice on the anterior surface; and in the last two bodies the remains were found firmly adherent. This shows that

location on the anterior surface, and firm adhesion, are favourable to these hemorrhages. Early hemorrhage has, however, less value in a diagnostic point of view, as it may then be due also to atony of the uterus, without retention of parts of the placenta. Hemorrhages which occur at a later period have, on the contrary, so much the more weight. It often happens, as in the first case, that the confinement runs a normal course; but that in from two to four weeks after delivery hemorrhage again sets in, when the uterus contracts more around the foreign body, and is obstructed in its involution. The hemorrhage may then return at short intervals; may come on without any apparent cause, and alternate with a copious light lymph-coloured vaginal discharge. Although these hemorrhages are seldom so violent as in the fifth period, they may gradually undermine the patient's strength, and give rise to a high degree of anemia. It is, therefore, very probable that the high degree of weakness in the system, which the *post mortem* appearances in the first case distinctly indicated, is caused, or, at all events, is favoured, by such hemorrhages. The symptoms continue until either nature or art has removed the irritating placental remains. Nature may, in fact, expel them after the lapse of days or months, and the symptoms then cease; but there is no doubt that they may be gradually loosened, and may pass away in the above-described lympho-lochial discharge. Hegar directs attention specially to this point, and states that he has often met with women, who, long after delivery, have had insidious metrorrhagia, alternating with such a vaginal discharge, and, at the same time, with defective involution of the uterus; and in these cases he supposes that partial retention of the placenta exists. I believe that this view is correct, especially in the cases where the lochia, at a later period, and for a longer time, assume the condition above described. Thus, I am at present attending a patient who was delivered in the middle of October of a premature child; the placenta came away naturally, but was not examined by me. Convalescence proceeded regularly; but in the middle of November metrorrhagia set in, which returned in the end of the same month, and in fourteen days was followed by a copious, brownish-red, fetid vaginal discharge, mixed with numerous flakes of organic matter; the uterus was very large, and was anteverted. There was slight general uneasiness. With rest, and emollient injections, the symptoms subsequently ceased; but it appears to me probable that the phenomena described were due to a placental remnant in the uterus, and ceased on its removal with the discharge.

The course of the affection is, however, not always as above, for decomposition of the placental remains occasionally occurs, with endometric symptoms as causal or complicating element, giving rise to septicæmia. This is probably most frequent during epidemics of puerperal fever, and it is, perhaps, for this reason that I have comparatively so often found these remains of placenta in dead bodies. Finally, the

termination in the formation of the so-called placental polypi is to be mentioned, of which I have spoken in the commencement of this paper.

As to the *treatment* of placental remains, I shall defer speaking of it until I shall have, on a future occasion, given an account of the treatment of the after-birth period. I shall here only briefly state that these remains certainly ought to be removed, when this can easily be done; while, in other respects, we must confine ourselves to measures of cleanliness, and to the treatment of metrorrhagia by injections of water and of astringent solutions. If a longer period has elapsed since delivery, and if polypoid formations have taken place, these, of course, become the subject of surgical treatment.

CLINICAL RECORDS.

Cases of Ovariectomy.—By MR. BAKER BROWN, reported by Dr. G. de Gorrequer Griffith, House Surgeon to the London Surgical Home.

Case I.—Mrs. Z., aged 31, married ten years, mother of five children, was admitted into the London Surgical Home, on June 12th, 1863.

History.—Duration of disease, two years. About six months after commencement of the swelling, there was spontaneous rupture of cyst, while she was lying in bed under treatment in one of our London hospitals; four months after this first rupture, the cyst again spontaneously burst, as she was cooking; and rapidly filling, it for the third time broke six weeks after the second rupture. There was no external discharge upon the three several occasions of rupture, the cyst each time emptying itself into the abdominal cavity, whence the fluid was at least partially removed by absorption.

Ten weeks previous to admission, she was first tapped, and the second tapping was performed five weeks subsequently; on both occasions three gallons of thick dark fluid were removed. The third tapping was on June 18th, of this year, by Mr. Baker Brown, when sixteen quarts flowed away; the measurement of abdomen previous to which operation was forty-four and a-half inches.

Examination on July 1st.—Her spirits are, as they have ever been, most cheerful, and her health is very much improved by the preparatory treatment with tincture of the muriate of iron and tincture of arnica. Girth of abdomen, thirty-six inches.

July 2nd, 1863.—The patient under chloroform. Mr. Baker Brown made his accustomed short incision, broke down the adhesions, drew off with trocar, twenty pints of glairy fluid, and removed an enormous

multilocular cystic growth from the left *broad ligament*; as however both ovaries were diseased they were removed; the clamp securing one, and a ligature of Indian hemp the other ligament of ovary, while silver wire was employed in tying the three divided adhesions, which required such interference. The wound was then closed by seven silver sutures.

July 8th.—Clamp and four of the seven wire sutures removed.

July 12th.—Other three sutures removed.

July 16th.—Hemp ligature came away.

August 18th.—The patient not having had any untoward symptoms since the operation, made a rapid and excellent recovery, and leaves to-day quite strong and able to walk about.

Case II.—Miss V., an Irish lady, aged 20.

History.—Fourteen months since the disease made its appearance. First tapping, August 15th, 1862—twelve quarts of fluid drawn off; Second tapping, February 14th, 1863—sixteen quarts of fluid drawn off; Third tapping, June, 1863—twenty quarts of fluid drawn off.

Previous to these three operations, she had been submitted to the plan of treatment by the iodide of mercury, while locally a succession of blisters was employed, which failing of success, she came up to London, and on August 8th, in presence of Dr. Beatty, President of the Dublin Obstetrical Society, who kindly lent his aid, and of Messrs. Philip Harper, Bullock, Wratislaw and myself, the patient being under chloroform, Mr. Brown removed the polycystic growth, which he found to be of the left ovary, tied the very vascular omental adhesion, cutting off that portion of omentum below the silver wire ligature used, secured the pedicle with the clamp, closed the wound with four silver wires, adopting his wonted mode of dressing.

August 14th.—This patient, who had up to this been in the most favourable condition, rapidly sank; but, owing to the treatment adopted and to the most careful nursing enjoined, she rallied, and is now (August 31st) able to walk about. The amount of fluid drawn off on the day of operation was sixteen quarts.

Case III.—Miss D., aged 68, also an Irish lady.

History.—Nine years since the tumour was first noticed, but only within the last year has it become rapidly developed. Was never tapped till July 25th, when Mr. Brown performed the operation and removed ten pints of fluid.

On August 13th, the patient being under the influence of ether, Mr. Brown making his usual short incision, removed, in the presence of Messrs. Philip Harper, Bullock, Wratislaw, and myself, a large polycystic growth of left ovary; there being no adhesions of any import, the pedicle was embraced in the clamp, the wound closed by seven silver sutures, and the usual mode of dressing pursued.

Dr. Kidd, of Dublin, was present at the close of the operation. The patient has not had one unfavourable symptom since the operation, and is also able to be up and to walk about.

Both these last cases were visited by Drs. Kidd, Stoker, and Bigger, of Dublin, and the first was seen by Drs. Beatty, Kidd, and Stoker.

It will perhaps enhance the value of these reports, when I add, that through the kindness of Mr. Brown, I had the constant and immediate supervision, under him, of these cases, of which the first, as already stated, occurred in "The Home," the two others being in private practice.

Two cases of Deafness depending on Chronic Catarrh of the Internal and Middle Ear, Cured by the Injection of the Vapour of Water and Ammonia. By PHILIP C. SMYLY, M.D., T.C.D., and F.R.C.S.I., Surgeon to the Meath Hospital.

The two following cases have been treated by the inflation of the Eustachian tube and middle ear, with the vapour of ammonia. The apparatus employed was that described by Professor von Tröltsch, in his *Krankheiten des Ohres ihre Erkenntniss und Behandlung*, 1863. It may be well to mention before describing the cases, that Professor v. Tröltsch has quite abandoned the use of fluid injections. He says, in one of his lectures:—"With regard to the injection of remedies into the middle ear, which are still employed by many aurists, I consider them utterly useless, and have for my part completely given them up." The Professor then shows how in the great majority of cases, not a drop of the fluid ever reaches the middle ear. He also congratulates the sufferers from deafness that this is the case. He describes the effects thus:—"Our patient into whose middle ear some luke-warm water was injected, had vertigo for more than two hours; and in other cases, in addition to the deafness, there was periodic earache."

The method of applying the douche is fully described in the sixteenth lecture of the *Krankheiten des Ohres*.

Case I.—Mrs. V., stated, on her first visit, that she had been perfectly deaf for five weeks, and that she has been so more or less for a long time. She has felt a crackling sensation in the left ear, but not for some time, and since it ceased she thinks she has been quite deaf. The right ear has the crackling sound in it at present, and she can hear when the voice is very loud, and the mouth placed close to the ear. With the left ear she cannot hear the watch unless it is pressed against the ear, while with the right she can hear it at two inches. Both ears were inflated by blowing through a tube and Eustachian catheter, but with considerable difficulty. There was some improvement in the hearing, which lasted until next day. Four days after both ears were inflated several times with the vapour of water and ammonia, with marked improvement. The douche was repeated on the two following days, and for a fourth time

three days later. On the last occasion the report is, that she can hear the watch with the left ear at three inches, and with the right ear at eight inches. The douche was repeated on the following days, making altogether one inflation with air, and six with the vapour of ammonia and water, in fourteen days.

Her hearing is quite restored, and she has no inconvenience from her ears. No other remedies were employed, either internally or externally.

Case II.—Dr. H., a medical practitioner. Has always had excellent hearing, until about the first week in September. He had inflammation of the larynx, brought on by cold from the previous July, with copious discharges from the right nostril. In August he had a severe influenza, which reduced his strength very much. He drove one day about ten miles on an outside car, with his right side forwards. The next morning he was deaf. Describing his own case, he says:—"The ear felt as though something was lodged in the cavity, and my voice gave rise to a singing sensation through my head, which caused great difficulty in speaking, and also in hearing others speak. This continued for some days, the intenseness becoming every day greater, so that the pulsations of the carotid artery were very constantly heard, particularly when the head rested on the pillow. This soon was the only sound I could distinguish. The ticking of my watch could not be heard, unless in actual contact with my ear. Chopping the teeth produced a peculiar ringing sound through the deaf side of the head. When in a room where many persons were speaking, the sensation of being unable to distinguish what was said, was very uncomfortable. Sounds were heard, but the distinguishing of them was quite impossible, and upon such occasions the left (my good) ear seemed to participate with the right.

"I tried various methods for obtaining relief from the deafness, such as brushing the fauces with nitrate of silver solution, leeching inside the external meatus, blistering behind the ear, &c. On one occasion a few drops of spirit of ammonia were passed through a Eustachian catheter several times, which caused violent sneezing. Not any of these remedies gave the slightest relief. My deafness remained the same until February, 1863, (six months) when I had fever, with bronchitis. When able to be upon a sofa, I first perceived that I could hear with my right ear; I covered the left, and found the hearing quite restored. I left Dublin for the continent in March. My hearing remained perfect until my return to Dublin in June. When about ten days in town, the discharge from the nostril (which from July had continued without intermission), increased a good deal. The fauces were also, up to this time, more or less inflamed, and the voice was rough; cough was troublesome, with a good deal of expectoration. I now perceived a peculiar sensation in my right ear, of sounds like the opening and closing of a valve; there was a feeling of something

being in the ear. The power of hearing gradually diminished. In a few days the sounds of the carotids returned, the ringing of the voice through the head, the peculiar sensation when the teeth were chopped, and all my former unpleasant condition.

"Professor Czermak examined my larynx and nasal cavity, with Dr. Fleming. The parts appeared more red than natural; the Eustachian tube was congested and filled with mucus. About a week after Dr. P. C. Smyly examined me in the same manner. He injected a weak solution of nitrate of silver, by means of a tube passed along the floor of the nose, over the back of the soft palate, and opening of the Eustachian tube, for the purpose of checking the excessive mucous secretions. This smarted a good deal, and rather increased the nasal secretion for two or three days. He then passed a Eustachian catheter, and endeavoured to inflate the tube with air, but failed until he passed a fine india-rubber bougie into the Eustachian tube; the air was then blown in so as to act upon the membrane of the drum. The vapour of ammonia and water was then pumped in. In less than a fortnight under his treatment my hearing was perfectly restored. As it gradually improved, crackling could be heard sometimes; but the sensation of the ear being free from plugging, with the removal of the ringing sounds when speaking, or chopping my teeth, gave the most convincing proofs of the success of the treatment. On some occasions, before the operation, I could only hear my watch within three inches of the ear; after it I could hear it more than three feet from it. Passing the catheter gave no uneasiness. The vapour of the ammonia and water felt pungent, but never caused sneezing, as when the fluid was injected.

"In about a week after I had ceased to attend Dr. Smyly, the secretion gradually returned, but two operations completely removed it. I hear as perfectly as I ever did, and am free from any feeling of discomfort in my ears."

The watch used in the second case had a very loud sound; that in the former was not so loud.

Dislocation of Left Radius (at Elbow Joint) backwards. By W. NEWMAN, M.D. Lond.—St. Martins, Stamford.

November 17, 1858.—A boy, seven years old, child of a mason, stout and well nourished.

He was running across the house floor and fell over some small obstacle. The left arm was bent under him when he was raised from the ground.

I saw him in a few minutes. The left fore-arm was fixed at an obtuse angle and strongly supinated; the thumb turned downwards and outwards, and the hand altogether bent a good deal over to the radial side. There was a very evident depression along the upper fourth of the normal line of

the radius. The head of the radius was lying beneath and behind the external condyle of the humerus. No displacement of the ulna.

The upper arm was held perfectly steady; I grasped the hand, drew the arm downwards, and with the thumb of the other hand pressed on the displaced head. Then slowly bending the elbow, the reduction was at once effected.

Comparatively few cases are on record of this form of dislocation. This instance is, moreover, an example of displacement occurring at an age when fracture might, with much more reason, have been expected to follow upon a fall.

Cases of Encysted Tumours in the Region of the Scalp. By CHRISTOPHER FLEMING, M.D., Surgeon, Richmond Hospital; Visiting Surgeon, Dr. Stevens' Hospital, &c., &c.,

I find the following cases in my clinical note-book. They occurred some few years back, and are not devoid of practical value:—

Case I.—A young girl, aged eighteen years, and unmarried, applied to me with a tumour on the top of the head, about an inch or so beyond the commencement of the hairy scalp. It was prominent and disfiguring, and interfered much with the adjustment of her hair and head-dress. From her account, and that of her mother, a fulness was visible in the site of the tumour from her childhood, and latterly this fulness became more remarkable. On examination I found that it exactly occupied the mesial line, in the site of the junction of the sagittal with the coronal suture, that the scalp moved freely over it, that its surface was perfectly smooth and uniform, that it was firmly imbedded in its position, and that its base was encircled by a solid and unresisting ridge. It projected a good deal; was somewhat globular in shape; about the size of a Maltese orange; and communicated a distinct sensation of fluctuation. No uneasiness was felt in it, and no manipulation of it was painful; neither did pressure upon it produce any unpleasant effect, cerebral or otherwise. It was free from a trace of pulsation, and no sound was discernible from the application of the stethoscope over it. The general health of the girl was good, though she was evidently of a strumous habit, having traces of strumous ophthalmia in both corneae. The catamenia were regular; the tumour was not influenced in the slightest degree by excitement of any kind, and she was capable of any amount of exercise without inconvenience. I admitted her into hospital; it was decided that this tumour was encysted; that its deeper connexions with the pericranium were most probably very intimate, and that an operation was justifiable. On the 1st of August the requisite preliminary preparations having been adopted, I proceeded to remove the tumour. Its connexion with the scalp was loose; and its anatomical locality was

distinctly under the occipito-frontalis tendon. When fairly exposed it was found that the cyst was completely identified with the pericranium on a ridge of bone encircling it, and that it was perfectly futile to attempt the removal of the whole cyst. With a scissors I clipped it all round the base of the ridge alluded to, as low down as I could reach; when turning out the contents of the cyst a regular cup-like cavity was exposed, as if bevelled out from the bone. In the centre of this cavity a dimple existed about the size of a fourpence, in which bone was wholly deficient, and brain-movement was distinctly visible through a dense fibrous looking membrane. No hemorrhage of any moment occurred, although the scalp was highly vascular. No separate vessel of magnitude sprung up; pieces of oiled lint were introduced within the cavity of the wound; the lips of the wound were gently approximated, and proper dressings applied. Very considerable local and constitutional suffering supervened after the operation; the local inflammation was severe and extensive, and the accompanying fever high and prolonged; all yielded to ordinary treatment; and no unusual head-symptoms presented themselves. The cicatrization of the wound was extremely slow, and was, on three or four occasions, interrupted by accessions of fever, and by local symptoms of an erysipelatous character. The attendant ulceration at times assumed a phagedenic appearance, and I was not free from alarm as to the result; and so slow was the reparative process that even at the end of three months a small patch of ulceration remained. The situation of the ulcerated surface and its peculiar shape rendered it not very manageable for suitable dressings so as to ensure its rapid healing. The brain-movements were visible throughout, and could be discerned without much difficulty after the cure was completed. I should have noted that the contents of this tumour were of the ordinary atheromatous character in scalp-encysted tumours, and that the microscopical appearances were as usually observed—such as epithelial scales, granular matter, cholesterine tablets, &c.

Case II.—A servant girl, aged twenty-one years, appeared at the Netterville Institution with a tumour on the right side of the head, which had first attracted her attention, accidentally, about six months previously, whilst she was combing her hair. Its inconvenient situation and its increasing size, induced her to seek advice respecting it. She was apparently in good bodily health, but was evidently of a very hysterical temperament. The tumour occupied the fore part of the right temporal region, about an inch behind the external angle of the eye, and immediately below the upper attachments of the temporal aponeurosis; it was assumed to be underneath the aponeurosis; and was evidently influenced in its prominence by the action of the temporal muscle. It was about the size of an ordinary walnut; was slightly movable in its bed, smooth on surface, remarkably

tense, and communicated a distinct sense of fluctuation. The scalp-covering was natural, though permeated by many large veins; and it had no firm adhesion to the surface of the tumour. The anterior surface of the superficial temporal artery could be felt at the lower border of the tumour.

Having transferred the girl to the Richmond Hospital, it was decided that the tumour should be removed; and, on the 21st of October, the operation was performed. A larger artery than I had contemplated was divided in the dissection required to expose the tumour; but the hemorrhage was controlled without the necessity of ligature. The tumour was embedded in the temporal muscle, and intimately identified with the pericranium underneath, in which situation the bone was deeply hollowed. At this stage of the operation the cyst, which was very thin and almost diaphanous, was opened, and the contents (atheromatous) escaped. It was, however, fully dissected off. Very sharp hemorrhage took place, which yielded to exposure to the air, to firm compression, and suitable dressing. Much fever and local inflammation supervened, and for many days there was almost complete trismus. The ultimate result was, however, favourable.

The practical surgeon will quickly recognise the more important points deducible from reflection on the details of the above cases, and particularly the condition of bony walls superinduced. The propriety of the early removal of tumours of the scalp, circumstanced as the above, must be admitted, and the caution required in the operative stages, must be apparent. In all similar cases, the complete removal or destruction of the whole of the cyst-wall is most desirable, or otherwise very ugly and forbidding ulcerations may arise, which are often very obstinate, and require renewed operative interference to effect perfect cure. In a pathological point of view the consideration of the mode of the original cyst-formations in each of the above cases is interesting. In such cases, "it may be impossible to decide, when the cyst is fully formed, what was its mode of origin; whether by growth of parts once normally formed, or by transformation of elementary and rudimental structures?"

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2. A case of rapid "wasting palsy," from structural disease of the spinal cord. By J. L. W. Thudichum, M.D. The investigation of the nervous centres; with comments by J. Lockhart Clarke, F.R.S., &c. Reprint from *Beales Archives*, No. XIII.
3. On the naming and classification of mental diseases and defects. By Thomas Laycock, M.D., &c. Reprint from *Journal of Mental Science*, July, 1863.
4. On artificial dilatation of the os and cervix uteri by fluid pressure from above. A reply to Drs. Keillar of Edinburgh, and Arnott and Barnes of London. By H. R. Storer, M.D., &c. Reprint from *Boston Medical and Surgical Journal*, July, 1863.
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1. The British and Foreign Medico-Chirurgical Review. Churchill.

2. The Edinburgh Medical Journal. Oliver and Boyd.

3. The Retrospect of Medicine. Edited by W. Braithwaite. Simpkin and Co.

4. The Half-yearly Abstract of the Medical Sciences. Edited by W. H. Ranking, M.D., and C. B. Radcliffe, M.D. Churchill.

5. Pharmaceutical Journal. Churchill.

6. The Lancet.

7. The Medical Times and Gazette. Churchill.

8. Association Medical Journal. Honeyman.

9. The Medical Circular. Harris.

10. Medical Critic and Psychological Journal. J. W. Davies.

11. The Asylum Journal of Mental Science. Churchill.

12. The Glasgow Medical Journal. Mackenzie.

13. The Athenæum.

14. The Dublin Medical Press.

15. The London Medical Review. Fieldson and Jary.

16. The Natural History Review. Williams and Norgate.

17. The Dublin Quarterly Journal of Science. M^cGlashan and Gill.

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18. The Indian Annals of Medical Science. Calcutta: Lepage and Co.

19. Transactions of the Medical and Physical Society of Bombay.

20. The Madras Quarterly Journal of Medical Science. Madras: Gantz, Brothers.

AUSTRALIA.

21. The Australian Medical Journal, Melbourne: Wilson and Mackinnon.

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22. The American Journal of the Medical Sciences. Edited by Isaac Hays, M.D. Philadelphia: Blanchard and Lea.

23. The American Medical Times; being a Weekly series of the New York Journal of Medicine. New York.

24. The American Journal of Science and Arts. Conducted by Professors Silliman and B. Silliman, Jun., and J. D. Dana, &c. New Haven.

25. Charleston Medical Journal and Review. Charleston, U.S.

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